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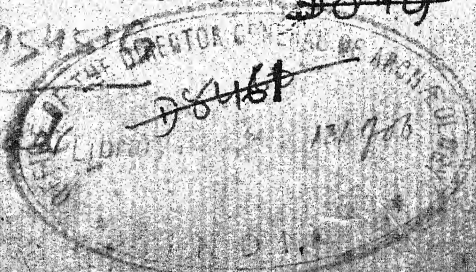
MADRAS

SOUTHERN DISTRICTS.

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MADRAS:

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MADRAS CITY.

Madras City.—The capital of the Madras Presidency and the third largest town in the Indian Empire, is built in a straggling fashion on a strip of land nine miles long, from two to four wide and 27 square miles in extent on the shore of the Bay of Bengal in 13° 4' N. and 80° 15' E.

MADRAS
CITY.

Descrip-
tive.

The site is low-lying and almost dead level, its highest point being only 22 feet above the sea, and it is intersected by two languid streams, the COOUM and the Adyar, of which the former enters the sea immediately south of Fort St. George, in the centre of the town, and the latter near the southern boundary of the city. Neither of them carries enough water to keep a clear channel, and except in the rains they both form salt lagoons separated from the sea by narrow ridges of sand.

Strangers to the town find it difficult to realise that they are in a place as populous as Manchester. Approached from the sea, little of Madras is visible except the first row of its houses; the railways naturally enter it by way of its least crowded parts; and its European quarter is anything but typically urban in appearance. Most of the roads in this part of the town run between avenues and are flanked by frequent groves of palms and other trees; the shops in the principal thoroughfare, the wide Mount Road, though many of them are imposing erections, often stand back from the street with gardens in front of them; the better European residences are built in the midst of compounds which almost attain the dignity of parks; and rice-fields frequently wind in and out between these in an almost aggressively rural fashion. Even in the most thickly-peopled native quarters, such as Black Town and Triplicane, there is little of the crowding found in many other Indian cities, and houses of more than one story are the exception rather than the rule.

The reason for all this lies in the fact that in Madras, if we except the sea on the east, there are none of the natural obstacles to lateral extension such as hem in Calcutta and Bombay; land is consequently cheap, and though the population of the town is only two-thirds of that of Bombay and only three-fifths of that of Calcutta, it has spread itself over an area five square miles larger than that occupied by the former city and only three square miles less than that covered by the latter. Though large parts of it are strictly urban in their characteristics, the city as a whole is, in fact, rather a fortuitous collection of villages separated from the surrounding country by an arbitrary boundary line than a town in the usual sense of the word.

For municipal and statistical purposes it is divided into twenty Divisions, but in popular usage the different portions of the town

**MADRAS
CITY.**

working towards an adaptation of the Hindu Saracenic, and the High Court, the Law College and the Bank of Madras are built in this style in red brick and grey granite. The latest building material is the beautiful brown stone from Nellore, close-grained yet easily worked, of which the Young Men's Christian Association building on the Esplanade is made.

Statues.

The chief statues of Madras are those of Her Majesty the late Queen-Empress, near the Senate House; of the King-Emperor, opposite the Mount Road entrance to Government House; of Lord Cornwallis, in the Fort square; of Sir Thomas Munro, by Chantrey, on the Island; of General Neill, of Mutiny fame, opposite the Madras Club; of Justice Sir Muttuswāmi Aiyar, in the High Court; and of the Rev. Dr. Miller, on the Esplanade, opposite the Christian College.

Churches.

The churches of Madras deserve more space than can be accorded them. The foundation stone of the Luz Church bears the date 1516 and the oldest European inscription in India. The St. Thomé Cathedral contains a series of memorials to Portuguese pioneers which begins in 1557. St. Mary's church in the Fort was consecrated in 1680, is the oldest Protestant place of worship in India, and contains the graves of Governor Nicholas Morse, a great great-grandson of Oliver Cromwell and the man who capitulated to La Bourdonnais in 1746; of Lord Pigot, who defended the Fort against Lally in 1761 and was afterwards deposed and imprisoned by his own council of the famous Swartz, missionary and statesman; of Sir Thomas Munro, who died of cholera while on a farewell tour in his beloved Ceylon Districts in 1827, and of many others who have made Madras his home. The Roman Catholic Cathedral in Armenian Street was erected in 1775 by the Capuchins, and about the same time the Armenians, then a wealthy and influential community, built their church in the same street. St. Mark's, Black Town, was consecrated in 1801, St. George's Cathedral in 1815, and St. Andrew's (the Scotch Kirk) in 1821. The two last were designed by the Civil Architect, Mr. De Havilland, R.E.

The principal Hindu temples are those dedicated to Vishnu and Siva respectively at Triplicane and Mylapore, and the chief mosque is in Triplicane.

**Climate,
tempera-
ture and
rainfall.**

The climate of Madras has been described with considerable accuracy as "three months hot and nine months hotter." The cooler months are never cold, the mean temperature of December and January being 76°, but the heat in the summer does not approach that of upper India, the mean for May and June being the moderate figure of 90°. The mean for the year is 83°. The average annual rainfall, based on figures for 85 years, is 49 inches, of which 29½ inches are received during the north-east monsoon from October to December and another 15 inches from June to September in the

south-west monsoon. The heaviest recorded fall during the last 85 years was 88 inches in 1827 and the smallest 18 inches in 1832, the year before the Guntūr famine.

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Like other places on the Bay of Bengal, Madras is liable to frequent and severe cyclones. In October 1687 a storm raged for five days, and drove ashore two ships lying in the roads. In 1721 another storm swept four ships from their moorings and wrecked one of them. On October 3rd, 1746, when La Bourdonnais' fleet was in the roads after the capture of the town, a cyclone sunk three of his ships and two prizes, while four others either lost or cut away their masts and 1,200 men were drowned. In 1782 more than 100 native craft which had come to Madras with rice to feed the thousands who had flocked into the town to escape Haidar's horsemen were wrecked and a terrible famine followed. Other cyclones occurred in 1811, 1818, 1820, 1836, 1843 and 1846. In the first of these 90 country vessels went down at their anchors and the surf broke in nine fathoms of water four miles from the shore. In the last, the Observatory anemometer broke at a registered pressure of 40 lb. to the square foot and one of the massive masonry pillars on the Elphinstone Bridge was blown over. In 1853, 1858, 1863, 1864 and 1865 yet other cyclones visited the place. The most destructive of all happened in May 1872. The wind pressure was 53 lb. to the square foot. The shipping in the roads did not receive sufficient notice to put out to sea, and between 6 and 11 a.m. nine English vessels, with an aggregate tonnage of 6,700 tons, and 20 native craft were driven ashore, though owing to the use of the rocket apparatus only nineteen lives were lost. In 1874 another cyclone visited Madras, but this time the ships put to sea in time and escaped. The last was in 1881 and, as narrated below, did great damage to the harbour.

Madras was founded in 1639 in the reign of Charles I. MASULIPATAM, then the Company's head-quarters on the COROMANDEL COAST, was hampered by the unfriendliness of the officials of the kingdom of Golconda, within which it lay, and by its distance from the native weaving and dyeing centres. These were further south in the territories of the dying kingdom of Vijayanagar, the representative of which lived at CHANDRAGIRI and ruled through Naiks with local authority. In August 1639 Francis Day, chief of the subordinate factory at ARMAGON, south of Masulipatam, obtained through one of these a lease of the revenues of Madraspatam and permission to build a fort in or about it. This fort was begun in anticipation of the Directors' sanction by Day and Andrew Cogan, the Agent on the Coromandel coast, in March 1640 and was named Fort St. George, after England's patron saint. In honour of the local Naik's father Chennappa, the settlement, as distinct from the town of Madras itself, was called Chennappatam, but the natives now apply the name Chennapattanam to the whole town. The Portuguese at St. Thomé, whose prosperity was already waning, had

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invited Day to settle there, but he preferred an independent position.¹ By the autumn of 1640, 300 or 400 families of weavers and others, attracted by an exemption from taxes for 30 years, had settled round the Fort, which when finished consisted of a tower or house enclosed by a rectangular wall 400 yards long by 100 yards wide with bastions at the four corners.

In 1641 the place became the Company's head-quarters on the Coromandel coast, in 1653 it was made independent of Bantam, and in 1658 Bantam and the stations in Bengal were put under its orders. The old records still in the Fort vividly describe the simple existence of the factors of those early days; the common mess at which the Governor presided, the prayers which every one had to attend, and the penalties prescribed for swearing, drinking more than half a pint of brandy at a sitting or getting over the Fort wall; and detail the many trials they had to undergo, the irrepressible interlopers, the ubiquitous pirates, and the hungry native potentates with their never-ending demands for more *douceurs*.

The Fort was frequently threatened. In 1672 the French took St. Thomé and fortified Triplicane; the Dutch drove them out in 1674; in 1687 Aurangzeb became aggressive; his general Daud Khān blockaded the place from St. Thomé in 1702; and in 1739 the Marāthās were hovering round. At each successive scare something was done to put the Fort, and the wall which had been built round Black Town, into better order, but, though these spasmodic efforts resulted in Day and Cogan's Fort being improved out of recognition, the Directors always grudged expenditure on fortification, the place remained wretchedly weak, and when in 1746, during the first war between the Company and the French, Dupleix's lieutenant La Bourdonnais attacked² it, Governor Morse meekly capitulated at once, and he and his council were carried off to Pondicherry.

FORT ST. DAVID then became the head-quarters of the Company and continued as such until 1752. The French retained Fort St. George until 1749, when it was given back under the treaty of Aix-la-Chapelle, and during those three years they pulled down the native and Armenian part of Black Town, which then clustered close under the north wall, and made a glacis out of the débris. But in other ways they left the Fort in an even worse condition than they found it and when the Company regained possession they took steps at once to improve it, turning the north arm of the Cooum away from the south wall of the Fort and building, on the ground so obtained

¹ Law and order were moreover at a discount there. One of the early letters to the Directors says "Had wee imbraced their proffer to reside in that citty, you must have sought out for such servants to doe your busines as were both sticke free and shot free and such as ood digest poizon, for this is their daily practice in St. Thoma, and no Justice."

² This attack, and the later siege by Lally, referred to below, are graphically described by Orme.

and on the west, a series of new bastions and works which practically constituted a new Fort enclosing the old one.¹ These changes enabled Pigot successfully to resist Lally's attack in 1759. The result of this siege, which followed on the second outbreak of war between the English and the French, was of the utmost moment, for the French had already captured Fort St. David and several others of the English settlements, and the fall of the Company's head-quarters would have been attended with disastrous consequences. The struggle lasted from the 14th December 1758 to the 16th February following and was most obstinately contested on both sides. The chief line of attack was along the shore north of the Fort, Lally's principal battery being near the present High Court. The place was saved by the appearance of an English fleet in the roads, the French retreating as soon as it arrived.

The greater part of the Fort as it stands to-day, including its northern half and the Secretariat buildings, was either restored or constructed between 1763 and the end of that century. With the exception of Haidar Ali's threatening approach in 1769 and again in 1780, on which latter occasion he ravaged the country up to the very gates of the Fort, Madras has been free from outside attack since Lally's siege.

Beyond the limits of the Fort and Black Town the Company had little authority in its earlier days. Tondiarpet, Purasavākam and Egmore were granted to it in 1693, Veysarpādi, Nangambaukam, TIRUVOTTIYUR and ENNORE in 1708, and Vepery, Perambūr and Pudupākam in 1742. Possession of these and other tracts, including St. Thomé, which had been occupied in 1749 to prevent the French getting a footing there, was confirmed by a farmān of the Mughal emperor in 1765. These villages were usually leased out, and though some of them boasted outposts with guns, they were too weak to be seriously defended when attacks occurred.

South-west of the Fort, stretching as far as Mylapore and the Long Tank, where now lies the most prominent part of the town, was an open and treeless expanse called the Choultry Plain, and at the time of Lally's attack the Governor's garden-house on the Cooum bank, where Government House stands now, was apparently the only European residence on that side of the Fort. Most of European Madras as it now appears was built at the end of the eighteenth and the beginning of the nineteenth centuries.

The population of Madras in 1871 was 397,552; in 1881, 405,848; in 1891, 452,518; and in 1901, 509,346. It is increasing more rapidly than that of ordinary rural areas and the census statistics of birth-place show that this is largely due to immigration from the neighbouring Districts of Chingleput and North Arcot. Between 1891 and 1901 the total percentage increase was 12·6, but in parts of the town

Population.

¹ A minute description of these improvements is given in Orme, II, 402-405.

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it was much higher than this. The number of people in Perambūr and Veysarpādi, for example, owing mainly to the establishment of two cotton mills, the Madras Railway Workshops, and the quarters and bazar of a Native Regiment in or near that locality, has more than doubled in the last thirty years, and the inhabitants of the houses between Parry's corner and Messrs. Arbuthnot's office have doubled in numbers even during the last decade. Emigration statistics show that large numbers of persons left Madras for other countries by sea, but only a small proportion of these were natives of the town itself, the majority coming to the port from inland Districts.

Its
density.

The density of the population is greater than that of any other of the large cities of the Presidency, and the average number of persons living in each occupied house is nine against six in the other towns having over 50,000 inhabitants, while in the heart of Black Town it is as high as thirteen. The city is also increasing in strictly urban characteristics. The proportion of the inhabitants between 20 and 40, is as high as one-third of the total, and the proportion of women to men continues to decrease and is now only as 98 to 100. In the parts in which hard manual labour is in the greatest demand, such as Perambūr and the area round the harbour, the proportion is even less.

Religions.

Owing to the presence in the town of the Prince of Arcot and his following and of a large number of Europeans and Eurasians, the proportion of Musalmāns and Christians in it is considerably higher than usual, there being 113 Musalmāns and 80 Christians in every 1,000 of the population against 64 and 27 in the Presidency as a whole. In 1901 there were 4,228 Europeans and 11,218 Eurasians in Madras, but the Armenians, who once formed a considerable community, numbered only 23. There were only 63 Pārsis and only eleven Jews.

The town is the head-quarters of the Church of England Bishop of the diocese, of the Roman Catholic Archbishop of Madras and Bishop of Mylapore, of the Church of Scotland, and of many Christian Missions and Societies, among which may be specified the Societies for the Propagation of the Gospel and for the Promotion of Christian Knowledge, the Church Missionary Society, the Wesleyan Mission, the London Mission, and the Madras Bible Society.

Vernacu-
lars and
castes.

The vernacular of the city is Tamil, which is spoken by nearly three times as many people as any other tongue. Next in importance comes Telugu, which is the language of a fifth of the population. It follows that the Tamil and Telugu castes largely predominate in the town. Of the former the Paraiyans (labourers, 63,000), Vellālas (63,000) and Pallis (52,000) are the most numerous, and of the latter the Balijās (merchants, 43,000). The next most numerous caste, the oil presser Vāniyans, is only 20,000 strong. Brāhmans are more than usually numerous, forming some 6 per cent. of the Hindu population. Most of the Musalmāns return themselves

as Sheikhs by tribe. There is a sprinkling of foreign castes, but none of them is numerous.

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Occupations.

In their occupations the people naturally present a complete contrast to the Presidency as a whole, less than 4 per cent. of them being employed in callings connected with pasture and agriculture, as compared with 71 per cent. in the rest of the Province, while the numbers gaining their livelihood from service under Government, personal and domestic service, the supply of food and drink, commerce, and the learned and artistic professions are proportionately much larger than elsewhere. The number of persons of independent means is also unusually high.

Births and deaths are registered with more accuracy in Madras than anywhere else in the Presidency, and consequently the rates of both are apparently much higher than in other urban areas. On an average of recent statistics they were 41.9 and 40.5 per mille, respectively, against 34.6 and 30.5, respectively, in all urban areas throughout the Presidency. The great majority of the deaths are returned, as usual, under the vague headings of fevers and other causes. The city was free from plague up to 1905, when some cases were discovered and it remained infected for some time. Cholera is frequently imported from the neighbouring villages outside the town, over which the municipality has no sanitary control.

Public
health.

The town cannot boast that it is healthy to native life, though to Europeans it is salubrious enough. The tanks to the west, and the rice-fields within its limits which are irrigated from these, keep the sub-soil water at an unpleasantly high level, and moreover the drainage system of the town has hitherto been inadequate to remove the large quantities of water brought into it every day by the municipal water-works. The soil is accordingly much water-logged. Considerable quantities of sewage also at present flow into the Cooum owing to the inadequacy of the existing drainage arrangements. A new drainage scheme, referred to below, is expected to do much to cure these defects. The recently erected Moore Market has been of service in improving the food-supply.

Besides the educational and medical institutions described below, Madras possesses a large number of scientific, charitable and social institutions and societies. Chief among those devoted to science are the Observatory and the Museum. The Observatory was the first ever established by Europeans in the East. Its nucleus was a collection of instruments made by a scientific member of the Madras Council, William Petrie, and bequeathed by him to the public service when he left India in 1789. The present building was erected in 1792; Sir Charles Oakeley, who was keenly interested in such matters, being then President in Council. John Goldingham was the first astronomer, holding the post till 1830, and he and his successors, notably T. G. Taylor, F.R.S. (1830-1848), Captain W. S. Jacob of the Bombay

Institutions.

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CITY.**

Engineers (1849-1859) and N. R. Pogson (1861-1891), have done much special work of permanent value in astronomical annals. The Observatory contains among its instruments a large equatorial and an efficient transit circle. The Meteorological department in connection with it was established in 1867, and was brought under the Government of India in 1874. In 1899 the Madras Observatory was transferred to the Government of India, the astronomer became the Director of the Observatories at KODAIKANAL and Madras and the latter institution was put under the immediate charge of a Deputy Director, who is also the Meteorological Reporter to Government. Its work is now chiefly confined to meridian observations for determining the time, and the maintenance of the time service, which is effected by the daily transmission to the Central Telegraph office at Madras, and thence automatically throughout India, of a signal marking the moment at which standard time is 4 p.m. Special observations are also made for the issue of storm warnings, and the daily weather report for the Presidency is compiled from telegraphic information received from the various recording stations.

The Museum was founded in 1851. Its nucleus was a collection of geological specimens presented by the Madras Literary Society and the duplicates of the articles sent to the Great Exhibition of 1851 in Hyde Park. In 1855 subordinate museums were established in five different Districts, but they were not successful, and in 1861 all but that at Rājahmundry were closed and many of the articles in them were transferred to Madras. In 1855 a Zoological garden was connected with the Madras Museum, but this was transferred to the People's Park in 1863. In recent years, under Mr. Thurston's care, the Museum has been very greatly developed. The policy adopted has been to render it a popular illustrated guide to the natural history (animal, vegetable and mineral), arts, archaeology, ethnology and economic resources of the Presidency, and that it is appreciated by the public is sufficiently shown by the fact that it is annually visited by more than 400,000 persons. Among the most valuable objects in the archaeological section are the sculptured marbles from the railing of the Buddhist stūpa at AMARAVATI in the Guntūr District, the date of which is about the end of the second century A.D., and a fragment which is supposed to be part of one of Buddha's bones, as it was found (at BHATTIPROLU in the same District) in a rock-crystal casket enclosed in an outer stone case inscribed with the statement that it was made to contain relics of Buddha. The collection of arms and armour from the arsenal in the Fort and the Tanjore palace, the prehistoric antiquities, and the numismatic collection, which is specially rich in coins of the various native dynasties of south India and of the various European Companies which have held sway there, are others of the more notable possessions of the institution. Attached to the Museum is the Connemara Public Library, which was opened

in 1896, contains more than 10,000 standard works, and is used by about 14,000 persons annually; and a theatre, capable of seating 400, provided with a stage adapted for lectures, conferences and charitable entertainments by amateurs.

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CITY.

Of the charitable institutions in Madras two of the oldest are the Friend-in-Need Society and the Monegar Choultry, which were founded in 1807 and 1808 respectively. Both are supported by public subscriptions and grants from Government. The former devotes itself to the relief of destitute Europeans and Eurasians and the suppression of mendicity among them. The latter affords shelter, food and clothing to the native poor and infirm irrespective of caste or creed, and relieves some 50,000 cases annually. Besides these, Government contributes to the upkeep of two civil and one military orphan asylums, a foundling asylum, the Triplicane Langarkhāna, or poor-house, and other charitable institutions.

Among other societies, Madras has a Literary Society which possesses a library of over 45,000 volumes; a Fine Art Society which holds an annual exhibition and in other ways encourages Art; an Agri-Horticultural Society which manages the ornamental gardens opposite the Cathedral and holds an annual flower show; a Musical Association and an Amateur Dramatic Society; a Gymkhana Club, clubs for cricket, boating and racing, and the two favourite resorts of Madras society, the Madras Club and the Adyar Club. The Madras Club was founded in 1831. Up to then the usual meeting place had been Lord Cornwallis' Cenotaph on the Mount Road, or (for the younger members of the King's and Company's services) the Tavern of the Exchange (now the British Infantry mess) in the Fort.

The chief indigenous arts of Madras are silk and cotton-weaving, silver work and embroidery. Raw silk is obtained from Bangalore, Calcutta and Bombay, mixed with cotton and woven into native cloths which are sold locally and also exported to Ceylon, Burma, the west coast of the Presidency and even Natal. The cotton cloths made are of the ordinary coarse variety. The silver work and embroidery employ but few hands, but the former is less known than it deserves to be, while the latter is usually in excellent taste and consists of silk, gold or silver thread, or green beetle wings procured from Cuddapah, worked on satin or muslin. The School of Arts gives instruction in a number of other directions, such as wood-carving in the Dravidian style, brass and copper repoussé work, lacquer-work and carpet-weaving, but none of these arts has as yet taken root outside its walls.

The city has hardly any notable manufactures. Until very recently tanning was an important industry. The factories are just outside the town in the Chingleput District, which in 1900 possessed 97 of them with an outturn worth 32 lakhs. The industry is now seriously threatened by the superior speed and cheapness of the American

Manufac-
tures.

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process of chrome tanning, but an attempt is being made to introduce similar methods in Madras.

The Buckingham, the Carnatic and two other mills, all established between 1874 and 1883, spin yarn and weave cotton cloths of various descriptions. Their total capital is 27 lakhs, they possess 1,700 looms and 117,000 spindles, and they employ a daily average of more than 7,000 men, women and children. Some cement and tile works employ 350 hands and produce an annual outturn worth over 1½ lakhs. There are nine iron foundries and four cigar factories, one of which makes 12 million cheroots annually. A new industry is the manufacture of aluminium utensils.

Commerce
and trade;
sea-borne
trade.

Although Madras has no natural harbour, it ranks fifth among the ports of India in the value of its trade and fourth in the tonnage of vessels which enter and clear at it. But if the averages for the last two quinquennia are compared it will be found that foreign trade has remained practically stationary. Fifteen or twenty years ago this was always greater than that of Karāchi and frequently in excess of that of Rangoon, but during the last five years it has always been less than that of Rangoon and has twice been smaller than that of Karāchi.

Including the coasting trade, but excluding Government stores and treasure, the average annual value of the total external import trade of the port in the five years ending with 1903-04 was 781 lakhs, and of the export trade, 557 lakhs, making a total of 13·38 crores, or £8,920,000. It is one of the few ports in the Presidency at which imports have exceeded exports. Of the imports 651 lakhs, and of the exports 502 lakhs were from and to foreign countries, and the remainder was carried coastwise from and to Indian ports. An annual average of 1,200 vessels, having a tonnage of 2,391,000, enter and clear the port in cargo and in ballast. Of these an average of 1,950, with a tonnage of 1,802,000, are coasting traders. More than 40 per cent. of the total sea-borne trade of the Presidency is conducted from the port. More than 70 per cent. of the imports and nearly 60 per cent. of the exports are respectively brought from and sent to the United Kingdom.

By far the largest item in the foreign imports is European piece-goods, twist and yarn. Next come iron and steel, machinery and railway plant, and kerosene oil. Of the foreign exports, hides and skins are the most important item, and they are followed after a long interval by Indian piece-goods, indigo and raw cotton. The native traders in the town are chiefly Tamil Chettis and Telugu Komatis and Balijs. Foreigners, such as Pārsis, Gujarātis, Bhātias and Boras take a share, but are few in numbers.

The
harbour.

The serious disadvantage of the absence of any natural harbour at a port where the surf is continual has been met by the construction of a screw-pile pier and a harbour of masonry. The pier was

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CITY.

completed in 1862. The harbour was begun in 1876 and by September 1881 was nearly completed. It consisted of two parallel masonry breakwaters, each 500 yards distant from the pier, running out at right angles to the shore for 1,200 yards into $7\frac{1}{2}$ fathoms of water and then bending towards one another so as to leave an entrance in the centre of the east side 550 feet wide. The space thus enclosed was calculated to hold nine steamers of from 3,000 to 7,000 tons. On the 12th November 1881 a cyclone struck it which, besides minor damages, washed away half a mile of the breakwaters, threw the two top courses of concrete blocks into the harbour, hurled over two of the Titan cranes used on the works, lowered and spread out the rubble base of the breakwaters and washed away $1\frac{1}{2}$ miles of construction railway.

In 1883 a committee of English experts reported on the best method of completing the work and in 1884 operations were recommenced. The harbour was completed in 1896 on practically the original design, except that the width of the entrance was reduced to 500 feet. The total cost from first to last was some 126 lakhs. Since then, however, it has silted up considerably and after much discussion in India and England it has now been decided to close the existing entrance on the east, which is rapidly shallowing, and to open another at the north-east corner. It has also been suggested that, in the large accretion of sand which the construction of the harbour has occasioned on the coast to the south, a dry dock should be excavated in which ships could be unladen direct on to wharves instead of into boats and lighters as at present. By Madras Act II of 1886 the harbour was vested in the Harbour Trust Board, the average income of which was $7\frac{1}{2}$ lakhs, mainly derived from harbour dues. By Madras Act II of 1905 the care of it has now been vested in a board of trustees. The light is on the main tower of the High Court building and is a double flash white light visible 20 miles in clear weather.

The rail-borne trade of the city amounts to 740,000 tons, of which 344,000 tons are imports and the remainder exports. The imports from places within the Presidency are nearly treble those from outside it, but the exports go in about equal quantities to places within and without the Province.

Rail-borne
trade.

Of the external imports, more than half come from the Nizām's Dominions, largely in the shape of coal from the Singareni mines. Nearly all the external exports are sent to Mysore State. They consist chiefly of coal and coke brought to Madras by sea from Bengal and sent to Kolār for use on the gold-fields, while grain and pulse, metals and kerosene oil are also important items. The coal sent to Kolār has greatly decreased in quantity since electrical power has been supplied to the gold mines from the Cauvery falls.

The chief internal imports are grain and pulse, which come largely from Ganiām, Vizagapatam, Godavari and the three Districts, Nellore

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Chingleput and North Arcot, adjoining the city; stone, lime and wood, imported mainly from these same three Districts; dyes and tans, from these three Districts and the Deccan; oilseeds, and hides and skins.

The internal exports consist chiefly of salt, sent mainly to the inland Districts in the south; grain and pulse, despatched largely to the three adjoining Districts; metals, most of which are sent south; coal and coke; kerosene oil and European piece-goods.

Means of
communi-
cation.

The whole of this trade is carried by two railways, the Madras and the South Indian systems. The former is on the standard gauge and has three sections. Of these, the north-east line, starting from the Royapuram terminus, connects Madras with Calcutta; the north-west line, from the Central station, leads to Bombay; and the south-west line from the same terminus goes to the west coast Districts. The South Indian Railway, a metre-gauge line with its terminus in Egmore, runs to Tuticorin, whence steamers ply to Colombo and so place Madras in communication with the ocean liners which touch at that port. The Madras and South Indian Railways have a joint station on the Beach, opposite the harbour, for the convenience of the shipping, and the north-east line of the former is being carried into the Central station.

The British India Company's steamers sail periodically from Madras to Calcutta, Bombay, Rangoon and the Straits.

The BUCKINGHAM CANAL provides cheap transit to and from places along the coast between the Guntur District north of the town and the South Arcot District south of it. A cheap and speedy service of electric trams is in operation in the more crowded parts of the City, and the Corporation maintains 187 miles of metalled roads. There is a telephone exchange and an hourly postal delivery throughout the town.

Revenue
adminis-
tration.

The revenue of Madras is administered by a Collector, who is something of a pluralist, being also Collector of Sea Customs, Protector of Emigrants under the Emigration Act XXI of 1883, and Superintendent of Stamps and Stationery for the Presidency.

In the early days of Fort St. George revenue was raised not only from the rents of the villages and gardens round the Fort but also by taxes on tobacco, betel, wine and country spirit, by land and sea customs, by market dues and by quit-rents on houses.¹ The main part of these was collected by an officer known as the Land Revenue Customer. In 1730 the total revenue amounted to about £30,000. After the Chingleput District came into the Company's possession in 1763, the management of the villages, which were then known as the Home Farms, was made over to the Collector of that District; but in 1870 the Collector of Madras, as the Land Customer, was by that

¹ "Nine fanams for every great house, six fanams for every small house and as

time called, was made responsible for the revenues of the City, and he continues in charge of all of them except those from Salt and Abkāri. The agricultural land in the town is held on the ordinary ryotwāri tenure, but the old quit-rents on house property, which are still collected, are peculiar to the city. The chief items of general revenue in the town (in thousands of rupees) were, in 1903-04, from land revenue 98, quit-rents 83, stamps 452, excise 1,687 and income-tax 516. Besides these, large receipts under other heads, such as customs, owe their importance to the fact that the city is the chief port and the capital of the Presidency, but can hardly be considered to form part of its revenue as a District.

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In the early days of old Madras both civil and criminal justice were administered by the Choultry Justices, who consisted of the Land Customer, the Mint-master and the Paymaster and sat twice a week at the Choultry. From 1678 the Governor and his Council sat on Wednesdays and Saturdays in the chapel in the Fort to hear the more serious civil and criminal cases, while the Choultry Justices continued to dispose of petty matters. In 1688 the newly appointed Mayor and Aldermen were constituted a Court of Record which replaced the Choultry Justices and about the same time a Court of Admiralty with a Judge from England, the forerunner of the present High Court, was established under charter. In 1726 the Governor and his Council were appointed as a Court of Quarter Sessions for the trial of all offences except treason and were also empowered to hear civil appeals from the Mayor's Court. A Supreme Court was established in 1801 with a Chief Justice and two barrister Judges, and in the following year the Sadr Adālat and the Faujdāri Adālat, by aisting of the Governor and Council, were respectively made the boards of appeal in civil and criminal cases arising outside Madras. In 1862 these were combined with the Supreme Court to constitute the present High Court, but the Governor and his Council ceased to exercise judicial powers.

Civil and
Criminal
Justice.

24 Civil Justice is now administered by the three judges of the Court for Small Causes, by the City Civil Court and by the High Court. The first of these had its origin in a Court of Requests founded in 1753 and originally possessing jurisdiction only up to Rs. 20. It now tries cases up to Rs. 2,000 in value. The City Civil Court was constituted by Act VII of 1892 and has power to hear suits up to Rs. 2,500 in value except those which are cognisable by the Small Cause Court.

Criminal Justice is administered by four full-power magistrates called the Presidency Magistrates, sessions cases arising within the city being heard by the High Court.

The internal administration of the city is in the hands of the Municipal Corporation, which consists of a President paid from Municipal funds and appointed by Government and a body of honorary Commissioners partly elected by the rate-payers and certain public bodies

The Municipal
Corporation.

MADRAS
CITY.

and partly appointed by the Government. The President is assisted in his executive work by an Engineer, a Health Officer, and a Revenue Officer, all of whom are also appointed by Government. A special Act, which has recently been re-modelled, governs the operations of the Corporation.

The first organised effort towards municipal government in Madras was made in 1688 when, under the orders of Josia Child, Governor of the Company, who had taken the idea from Dutch institutions in India, a Mayor and Corporation consisting of twelve Aldermen and 28 Burgesses, with a Recorder, were established by charter. On the 29th September 1688 the Aldermen in robes of scarlet serge and the Burgesses in white china silk met in state in the Fort to hear the charter read and take the oaths. Their only income at first was from certain petty dues on measuring grain and weighing goods which the Government assigned to them. The records show that roads and bridges were repaired out of the proceeds of an impost called the Town Conicopillay's duty, but it is not clear that the proceeds of these were administered by the Corporation, and as the natives strenuously resisted all new taxation that body apparently had no considerable revenue. Municipal government proper began with the passing of an Act in England in 1792 which legalised the collection of assessments on houses and lands in the three Presidency Towns for expenditure upon their good order and government. From that time forward a succession of Acts has gradually improved the municipal machinery and the Corporation now has an average annual revenue, excluding receipts from loans, of some thirteen lakhs. The chief items are the house and land taxes, which together bring in nearly two lakhs, and the water tax, which produces nearly two lakhs. The largest item on the expenditure side is sanitation, while drainage, roads and water-supply follow next. The Commissioners have continually hampered in their undertakings by the straitness of means. The straggling nature of the city involves a larger expenditure on many items than is easily met from the receipts, or improvements of any magnitude have had to be paid for from loans, the interest on, and repayment of, which form a heavy charge on the revenues.

Water-
supply.

The most important of the Commissioners' undertakings have been the water-supply and drainage of the city. Madras is supplied with water from a reservoir called the Red Hills Lake which is fed from another reservoir known as the Cholavaram tank, which in its turn is filled by a channel from the Korttalaiyār river. This lake is seven miles from the city and the water is brought from it by an open channel and eventually led into pipes and distributed throughout the town. The scheme was begun in 1868 and finished in 1872, and was carried out under the supervision of the municipal Engineer Mr Standish Lee. On the 20th November 1884 a cyclone burst the

bank of the Red Hills Lake and the breach rapidly widened until it was nearly a mile in length, and the lake was practically emptied. For ten days, until the breach was temporarily repaired, Madras was dependent upon the small Trevelyan reservoir and the old Seven Wells supply for its water. The Red Hills Lake has a capacity of some 100 million cubic yards, but as it lies low, the head of the supply channel being not quite 36 feet above M.S.L., only a portion of this can be drawn off at a level which will command the town and when the water in the lake falls below a certain height the supply has to be maintained by pumping. The average annual quantity of water supplied to the city is 415 million cubic feet; but owing to the want of pressure due to the low situation of the lake, the amount available is insufficient for the needs of the people in about one-third of the area of the town. To remedy this it is proposed, when funds are available, to introduce a new scheme under which Red Hills water will be pumped to the top of a ridge near the lake which is 90 feet above M.S.L. and taken thence to the town in pipes under the pressure resulting from this elevation. The capital cost of the existing works was 24½ lakhs, of which 21 lakhs were met from loans and the remainder from revenue and grants from Government. Up to 1905, 11½ lakhs had been invested in Government securities towards a sinking fund for the repayment of this sum. The average annual cost of the maintenance of the scheme is Rs. 1,16,000.

Parts of the town have been systematically drained for many years. Drainage. Black Town, its most thickly populated quarter, is served by a complete system which was begun in 1832 and was prepared by the municipal Engineer, Mr. J. A. Jones. This consists of open U-shaped drains at the side of the streets which empty themselves into three parallel sewers. These discharge into a main sewer which leads to a well in Royapuram whence the sewage is pumped through an iron main for 1½ miles and then taken by an open masonry channel about half a mile further to a sewage farm of about 78 acres north of the city. Here it is utilized for growing hay, which is largely bought by the Commissariat department and brings in a considerable revenue. This scheme cost 10½ lakhs, and the amount was raised by a special loan. Up to 1905, 5½ lakhs had been invested in Government securities towards its repayment. The average cost of maintenance of the scheme till Rs. 67,000.

Besides Black Town, certain other smaller localities have been drained on the same system by leading the sewage into wells and emptying it on to sewage farms. There are four of these pumping stations. One in D'Mellow's Road serves Purasavakam, Chulai, Pepery and Egmore; another, in the Napier Park, Chintadripetta and North Triplicane; a third, at Kistnampet, South Triplicane and Kistnampet; and the fourth, at Mylapore, deals with the sewage of Mylapore and St. Thomé. The total area of the four farms is

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Rs. 37,000. These farms are, however, too small to deal with all the sewage pumped and are, moreover, situated unpleasantly near to human habitations.

A new scheme for the drainage of the entire city, except Black Town, has accordingly been drawn up and is now (1905) in progress. This will do away with the isolated farms and will take the whole sewage of the town to a large farm beyond its northern outskirts. The essentials of the scheme were planned by an expert from England, but the details have been modified by the Engineer to the municipality. The house drains will discharge into syphon traps fixed in the street and the sewage will be led, by pipes laid at self-cleansing gradients, to seven different wells serving the following seven quarters of the town: Mylapore; Kistnampet and South Triplicane; North Triplicane, Chintādrupetta and Pudupet; Egmore; Purasavākam, Chūlai and part of Perambūr; Tondiarpet and Washermanpet; and Royapuram. From these wells it will be forced under pressure into a high-level cast-iron main which will be nine miles long and will traverse the whole length of the city from Mylapore in the south to the sewage farm in the north. The whole scheme is estimated to cost 40 lakhs.

Other
sanitary
measures.

Besides the outlay on the water-supply and drainage schemes, the Commissioners spend an average of $3\frac{1}{2}$ lakhs, or more than one-fifth of their income, on other sanitary measures. The chief recent improvements have been the construction of the Moore Market, so called after the late President of the municipality, at a cost of $2\frac{1}{2}$ lakhs, the erection of two cinerators for the destruction of the town rubbish, and the cutting of a number of new streets and lanes through the most crowded and insanitary parts of the town. The more notable of these latter are the street from the Wālājā Road to Pycroft's Road in Triplicane, and that from Waller's Road to the Napier Park.

Troops and
volunteers.

Some few troops are always stationed in Madras itself, in the Fort and elsewhere, besides others at Saint Thomas' Mount, Poona-mallee and Pallāvaram on the outskirts of the city. In addition there are three corps of Volunteer Rifles, the Madras Volunteer Guards, the South Indian Railway Volunteer Rifles and the Madras Railway Volunteers, and also the Madras Artillery Volunteers.

Police.

The police arrangements in old Madras were as primitive as those for the administration of justice. Outside the Fort an hereditary official known as the Pedda Naik (big peon) was appointed who, in return for the grant of certain rice-fields rent free and petty duties on rice, fish, oil and betel and nut, was required to keep up a certain staff of peons (originally twenty were found enough, but the numbers were afterwards increased) and either to detect all crimes committed or to make good the losses of those who were robbed. He was also required to provide the Governor when called upon with a body-guard of 150 peons. On state occasions he used to ride at the head of his

peons in the processions accompanied by 'our country music' as the old papers call it, the precursor, apparently, of the Governor's Band. In 1858 the police throughout the Presidency, the force in Madras included, was entirely re-organised and placed under Sir William (then Mr.) Robinson, the first Inspector-General of Police. The force in Madras consisted in 1904 of a Commissioner of Police, with a Deputy and two Assistant Commissioners, sixteen Inspectors and 1,321 subordinate officers and constables, of whom four were mounted and 44 marine police. There were 22 police-stations.

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The Penitentiary in Madras ranks as a Central Jail, but unlike most of such institutions it is used for the detention of prisoners sentenced to short terms, there being no subsidiary jails in the city. It has accommodation for 1,046 prisoners, including 59 in the hospital and 42 in the observation cells. The total average population in 1904 was 1,091. The principal industry on which the convicts are employed is composing, printing and binding forms and books for the Government Press, and the section of the Jail in which this work is done is treated as a branch of the Press. On an average 320 convicts were daily employed in this manner. Next in importance comes the manufacture of cotton goods, such as tent-cloth, rope, tape and bedding for the various departments of Government, especially the Army. In this work a daily average of 145 men were employed. Boot and sandal making for the Police, Jail and other departments and the expressing of gingelly oil occupy between them some 80 men daily. The net profit on all the manufactures in 1904 was Rs. 42,000, which was considerably larger than that earned in any other Central Jail. Within the Penitentiary is the only Government work-house which has been established in this Presidency under the European Vagrancy Acts. Civil debtors are usually confined in a portion of the Central and District Jails, but in Madras the Civil Jail is in Popham's Broadway at some distance from the Penitentiary. Including its hospital, it will hold 81 persons. In 1904 the total average number of persons confined in it was 34. There is also a Criminal Leper Ward in Royapuram with accommodation for 23 persons.

Jails.

The first educational effort in the early days of Fort St. George was the despatch by the Directors of a schoolmaster who arrived in 1678. In 1715 the European inhabitants convened a public meeting and resolved to establish a free school for Protestant European and Eurasian children. St. Mary's Charity School was the result, and it survived till 1872, when it was amalgamated with the Civil Orphan Asylums. The first attempt to educate the natives was made by the Christian Missions, and in 1717 the Danish missionaries at Tranquebar, of whom the chief was the famous Ziegenbalg, obtained leave from the Government to establish two schools, one for Portuguese in the English town and another for Malabars (Tamils) in the Black Town. Their labours in this and other stations received substantial support from the English Society for Promoting Christian Knowledge.

Education.

MADRAS
CITY.Arts
Colleges.

Madras is now the educational centre of the Presidency. Besides the University, which is purely an examining body, conferring degrees in Arts, Law, Medicine, Engineering, Teaching and Sanitary Science, the town contained on the 31st March 1904 ten arts colleges, three professional colleges, 97 secondary and 421 primary schools and also 22 technical and training schools. Of the ten arts colleges, three, the Presidency College, the Madras Christian College and Pachayyappa's College, are first-grade institutions giving instruction up to the B.A. degree. The first of these is managed and financed by Government while the other two are aided with grants.

Professional
Colleges.

The three professional colleges are the Law College, the Medical College and the College of Engineering. Most of the lectures in the Law College were originally given by specially selected barristers and vakils of the High Court in the early mornings and late afternoons when the Court was not sitting, but from 1902 it has been made a whole-time college with a permanent staff of a Principal and three professors. The Medical College has also recently been re-organised in important directions. At SAIDAPET, just outside the limits of the town, are the Teachers' College and the College of Agriculture. The latter is to be transferred to Coimbatore. A very noticeable point in connection with all these special colleges is the high proportion of Brāhmans among the students in them. Games and athletics are greatly encouraged at all the colleges and larger schools in Madras.

Special
schools.

Of the training schools, one is specially maintained for training schoolmasters belonging to the Panchamas, or depressed castes, for work in the schools kept up for those classes. The special institutions include schools or classes of medicine, engineering, telegraphy, printing, drawing and dressmaking, two commercial schools, three industrial schools, four schools of music or singing, the Anjumān and the School of Arts. The Anjumān was established in 1885 to ameliorate the condition of the Musalmān poor of both sexes, and though intended chiefly as a technical school provides also for the general education of its pupils. It has a show room for its productions in the Mount Road. The School of Arts was started by Dr. Hunter as a private concern in 1850 and was taken over by Government in 1855. It consists of two branches, one in which drawing, designing, modelling and engraving are taught and another in which instruction is given in wood-carving, carpet-weaving, metal-work and painting. All the students are required to attend the classes in the former. For some time special attention was paid in the school to the capabilities of aluminium as a material for household and other utensils, and one result of this has been the establishment of an independent private industry in the manufacture of articles from this metal. The possibilities of chrome-tanning are now being investigated.

The total number of pupils under instruction in the city in 1880-81 was 23,650; in 1890-91, 34,918; in 1900-01, 42,348; and in 1903-04,

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47,236. Of these last, 11,472 were girls. It far surpasses all the other Districts in the literacy of its people. Of the males in it 36 per cent., and of the females 9 per cent. can read and write, while in the Presidency as a whole the corresponding figures are 12 and less than one. Fourteen per cent. of its inhabitants can read and write English against less than 1 per cent. in the Province generally.

Of the girls in the upper stages of the schools and in the colleges the majority are Europeans, Eurasians and native Christians. Of the 99 women who have up to the present passed the F.A. Examination, 66 were Europeans, 26 native Christians, six Brāhmins and the remaining one a non-Brāhman Hindu. In 1905 two European ladies and one native Christian passed the B.A. examination. Of late years efforts have been made to remove students in the town from the unwholesome associations of native hotels by providing them with properly regulated hostels or boarding houses. Four of these were constructed by Dr. Miller, partly at his own expense, in connection with the Christian College. Five others are attached to the Teachers' College, another is connected with the Panchama Training school already referred to and another, the Victoria Hostel, stands behind the Presidency College in Chepauk. This is the largest of all, but it is far too small to hold the many applicants for admission. Of the 18 lakhs which were spent upon all the educational institutions in the city in 1904, some 36 per cent. was devoted to the colleges, 38 per cent. to secondary schools, 17 per cent. to training and special schools and 9 per cent. to primary education. Of the total expenditure 39 per cent. was met from general revenues, 36 per cent. from fees and 21 per cent. from endowments and other sources.

Madras has five daily newspapers. Two of these, the *Madras Mail* and the *Madras Times*, are edited by Englishmen and the three others, the *Hindu*, the *Madras Standard*, and the *Indian Patriot*, are edited by natives. In addition there are ten weekly papers and 31 papers and magazines published bi-weekly, monthly or quarterly. Of these as many as fourteen are devoted to religious subjects. Others represent Law, Education and Social Reform, the Planters, the Eurasians and the Muhammadans, while three of them, the *Christian College Magazine*, the *Madras Review* and the *Indian Review*, are magazines of repute which deal with current and literary topics. The latest venture is the *Indian Ladies' Magazine*, written for native ladies and edited by one of them.

Newspapers
and periodicals.

Madras possesses nine hospitals and five dispensaries. Of the former, five, namely, the General, Maternity, Ophthalmic, Leper, and Voluntary Venereal (Women's) Hospitals are maintained from Provincial funds, one, the Royapettah Hospital, by the Corporation, and three, namely, the Victoria Caste and Gosha Hospital for Women, Rājā Sir Rāmaswāmi Mudaliyār's Maternity Hospital and the Native Infirmary attached to the Monegar Choultry are supported by private subscriptions aided, in the case of the two latter, by grants. Of the

Medical.

**MADRAS
CITY.**

five dispensaries one is kept up by Government, two by the municipality and the other two by public subscriptions and grants. The General and Maternity Hospitals are exceptionally well found and well managed.

The number of beds available in these institutions is 1,371, of which 473 are in the General Hospital. In 1903 an aggregate of 19,000 in-patients (7,000 at the General Hospital) and 233,000 out-patients (61,000 at the General Hospital) were treated in them, and 18,000 operations (6,000 at the General Hospital) were performed. The total expenditure was Rs. 5,40,000, of which Rs. 4,35,000, or 80 per cent., was met by Government, and Rs. 32,000 by the municipality. The main items were establishment (Rs. 1,58,000), buildings (Rs. 1,33,000), 'miscellaneous charges' (Rs. 1,07,000) and diet (Rs. 92,000).

The Lunatic Asylum in Kilpauk, which is in many ways a model institution, had an average daily population of 320 males and 106 females in 1904. Of the 136 admissions in that year 16 were Europeans or Eurasians and the remainder natives. The cost of its upkeep was Rs. 1,05,000, of which Rs. 36,000 were spent on establishment and Rs. 28,000 on diet of patients.

Vaccination is compulsory in the town and is attended to with more than usual care, the number of successful operations in 1903-04 being 52 per mille of the population against an average for all municipalities of 50 per mille.

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CHINGLEPUT DISTRICT.

Chingleput District (*Sengalunīrpattu* or water-lily brook).—

A District with an area of 3,079 square miles lying on the east coast of the Madras Presidency between $12^{\circ}15'$ and $13^{\circ}47'$ N. and $79^{\circ}34'$ and $80^{\circ}21'$ E. It is bounded on the east by the Bay of Bengal; on the north by Nellore; and on the west and south by the North and South Arcot Districts; and it encloses within its limits the City of Madras, the capital of the Province. The District is flat and dreary near the sea, but undulating, and in some places even hilly, elsewhere. The scenery contains little to attract the eye in any of the three northern taluks of Saidapet, Ponneri and Tiruvallūr except where, in the extreme north of the last, the Nāgalāpuram hills and the ridge, the highest peak of which is the well-known Kamlākkam Drug, contribute a few picturesque effects. These are the only hills of any size in all the District. The height of Kamlākkam Drug is 2,548 feet, and that of the Nāgalāpuram hills about 2,500 feet, above sea-level. The Conjeeveram taluk is also marked by little to relieve the monotony which characterises it. Parts of the Chingleput and the Madurantakam taluks are however quite pretty, consisting of undulating plains varied by small ridged or conical hills running up to an elevation of some 600 feet.

The river system of the District consists of a series of streams which flow across it from west to east into the Bay of Bengal. The largest of these is the PALAR, which rises in the Mysore State, flows through North Arcot, enters Chingleput some miles to the west of CONJEEVERAM and after running right across the District in a south-easterly direction falls into the sea three miles to the south of MADRAS. The next most important river is the Korttalaiyār, which flows from the surplus weir of the great tank at KAVERIPAK in the North Arcot District, similarly traverses Chingleput from west to east and falls into the backwater at ENNORE a few miles north of

CHINGLE-
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DISTRICT.

Bounda-
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CHINGLE-
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Madras. The Araniya Nadi or Arani river enters the District in the north of the Tiruvallūr taluk, where it is known as the Nāranavaram river. After flowing across the centre of the Tiruvallūr and Ponneri taluks it reaches the sea near PULICAT. The COOUM (Kūyam) is formed by the surplus water of the Kūyam tank and after flowing through the Saidapet taluk and the City of Madras falls into the sea near Fort St. George. Besides these there are the two smaller streams of the Cheyyār and the Adyar. The antagonism between the languid waters of these rivers and the sand-laden currents of the Bay have resulted in the formation of a string of brackish backwaters along the coast, the chief of which are the Pulicat and Ennore lakes. These are connected by the BUCKINGHAM CANAL. None of them is navigable and for most of the year the smaller ones are dry.

Botany.

The flora of Chingleput presents few points of interest. The rainfall and altitude of the District are almost uniform and thus the plants found throughout it resemble those of other similar areas on the east coast. The forest trees and the crops are referred to below. The most noticeable trees among the villages are the palmyra palm and the casuarina. The latter has been extensively planted all along the belt of sandy soil which fringes the sea coast.

Geology.

Geologically, the country is of more interest. The archæan, gneissic and plutonic rocks are to be seen emerging from beneath the younger sedimentaries in the south-western and southern parts of it. They include the typical examples of the charnockite series as developed at SAINT THOMAS' MOUNT and PALLAVARAM, where the acid or quartz-bearing form of the hypersthene granulite is found in contact with the basic or norite form. Presumably lying on the archæans, though the base is not seen, come representatives of the upper Gondwana plant-bearing shales in a small outcrop 25 miles west-south-west of Madras, and other very small patches south of the Pālār river lying directly on the gneiss. They belong to the local series named the Sriperumbūdūr group, composed of white shales containing plants associated with sandstones and micaceous sandy shales and conglomerates, and they contain some ill-preserved ammonites and livalves, as well as plants, which may indicate affinity with the neocomian rather than the jurassic series. They are nearly horizontally disposed, of no

great thickness, and probably represent the lower part of the upper Gondwānas as developed a short distance to the north-west in the North Arcot District. From a boring in Place's Garden near Madras it would seem that lower Gondwānas (with a remote chance of coal) underlie the upper Gondwānas, at least locally.

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Unconformably above the upper Gondwānas and overstepping on to the gneisses in other places comes a very thin bed of low-level conglomeratic laterite, from ten inches to twelve feet thick, together with laterite red sands and loams. These occur in patches (as in the Red Hills north-west of Madras) and are the remains of a once continuous horizontal formation, probably of marine origin, lying from 500 to 600 feet above sea-level and cut through by recent river alluvium. They contain stone (quartzite) implements. Alluvial areas in the river beds and along the coast, together with blown sand, complete the list of surface deposits.

Wild animals of the larger kinds are scarce. An occasional tiger, a few leopards and some bears are found in the north of the Tiruvallūr taluk among the hills there, and also spotted deer and sāmbar in small numbers. Wild pigs are fairly numerous there and in the low hills and scrub jungle in Chingleput taluk. The District is famous for its snipe-shooting, which is systematically exploited by residents of Madras, and florican are more than usually common in it.

Fauna.

The climate, considering the latitude, is temperate, and resembles that of other coast Districts in the south of the Province in presenting no extremes of heat or cold. The mean annual temperature of Madras, which lies in the centre of the District, is 83°. It is a healthy tract on the whole, though fever is endemic in the west in some places and in the east leprosy and elephantiasis are prevalent.

Climate
and tem-
perature.

Its rainfall is neither copious nor very regular. The annual average fall throughout it is 45 inches, but this varies much in different localities. The supply is greatest (51 inches) in the coast taluks, next heaviest in the adjoining areas and lightest (43 inches) in the westernmost parts. The reason for these variations is that the greater part of the annual supply is received from the north-east monsoon and this has parted with some of its moisture by the time it has traversed the eastern side of the District. No rain sufficient for cultivation

Rainfall.

CHINGLE- usually arrives in April and May. In the south-west monsoon
PUT (June to September) the early dry (unirrigated) crops are
DISTRICT. grown. The most important cultivation is that carried out with
— the north-east rains, which fill the tanks (artificial irrigation
reservoirs) and enable the wet (or irrigated) crops to be put
down. The District has suffered comparatively little from
famine, but has had more than its share of disastrous hurri-
cane and cyclones. Accounts of some of these will be found
in the article on Madras City.

History
and
archaeo-
logy.

From the earliest times of which there is any record
up to the middle of the 8th century A.D., Chingleput formed
part of the ancient kingdom of the Pallavas, whose capital
was Kānchi, the modern Conjeevaram. The authorities are
divided as to who these Pallavas were and whence they came.
During the height of their power, about the beginning of the
7th century after Christ, they ruled over a great kingdom ex-
tending from the Narbadā and Orissa in the north to the
Ponnaiyār river in the south, and from the Bay of Bengal on
the east to a line drawn through Salem, Bangalore and Berār
on the west. The famous monolithic temples and raths at
Mahābalipur, better known as the SEVEN PAGODAS, on the
coast nearly due east of CHINGLEPUT town, and the well-
known Buddhist stūpa at AMARAVATI in the valley of the
KISTNA river, with its beautiful enclosure rails, are attri-
buted to them.

About 760 A.D. they became extinct as a ruling power and
Chingleput then passed under the Western Gangas of Mysore.
The Rāshtrakūtas of Mālkhed, in the present Nizām's Domin-
ions, invaded the District and took Kānchi in the beginning
of the 9th and again in the middle of the 10th centuries.
Shortly afterwards Chingleput became part of the country of
the CHOLAS whose greatest ruler, Rājārāja Deva, was then at
the height of his power. On the decline of the Cholas about
the middle of the 13th century, the District passed under the
Kakatiyas of Warangal and a line of later Cholas ruled over
Kānchi and the surrounding country, with one slight inter-
ruption, as their vassals.

About 1393 it was absorbed into the Hindu kingdom of
VIJAYANAGAR, which was then extending its hold over
all southern India, and with little or no interruption continued
to be part of that realm for over a century and a half.

On the overthrow of the Vijayanagar dynasty by the combined Muhammadan kings of the Deccan at the battle of Talikotā in 1565, it came into the hands of one of the viceroys of the fallen kingdom, who continued to pay allegiance to the fugitive king of Vijayanagar after his flight to CHANDRAGIRI, in the North Arcot District. From a later viceroy, Sri Ranga Rāya by name, the English received, in 1639, the grant of the site on which Fort St. George at Madras now stands. Shortly afterwards the whole of southern India was overrun by the Muhammadan Kutab Shāhi kings of Golconda. The Naiks (as the viceroys were called) of Chingleput remained the vassals of these new conquerors, and their dealings with the English at Madras are prominent points in the early history of Fort St. George.

On the fall of Golconda in 1687 Chingleput passed, with the rest of the CARNATIC, under the rule of the Mughal emperors at Delhi. During the Carnatic wars of the 18th century, Chingleput and other towns and villages in the District were the objects of repeated attacks and figure constantly in the story of these troublous times. In 1763 the District, which then included some of the villages now forming part of Madras City, was granted in perpetuity as a jāgīr to the East India Company by Muhammad Ali, the Nawāb of ARCOT, in consideration of the many services rendered by the English to him, and in 1765 the grant was confirmed by the Mughal emperor at Delhi. The old records always call the District "the Jāgīr." For the next fifteen years it was leased annually to the Nawāb himself and during that time Haidar Ali, who had by then usurped all sovereign authority in Mysore, devastated it twice, in 1769 and again in 1780. On the assignment of the revenues of the Carnatic to the English by the Nawāb of Arcot in 1781, it was placed under the charge of the Committee of Assigned Revenues. In 1801 it became part of the British Dominions in India on the cession of the Carnatic in full sovereignty to the English by the Nawāb. Besides the territory thus acquired, Chingleput includes the town of Pulicat, the earliest Dutch possession in India (founded in 1611), which was ceded to the British in 1825.

The oldest objects of archæological interest in the District are the rude stone monuments, relics of the Kurumbas and earlier prehistoric races, which are found in considerable num-

CHINGLE- bers. The monolithic buildings at the Seven Pagodas, the
PUT legends connected with Saint Thomas' Mount, the old Dutch
DISTRICT. Settlements at Pulicat and Sadras and the antiquities at Con-
jeeveram are referred to in the respective articles on these
places.

The peo- The District is made up of the six taluks statistics of which,
ple. for the census year 1901, are appended :—

Taluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population be- tween 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Tiruvallūr ..	744	1	464	253,973	341	+ 7.2	13,724
Ponneri ..	347	1	240	136,597	394	+ 11.6	7,803
Saidapet ..	342	6	254	262,478	767	+ 16.9	24,869
Chingleput ..	436	2	298	155,213	356	+ 13.1	13,092
Conjeeveram ..	514	2	364	225,300	438	+ 3.0	22,416
Madurantakam ..	696	3	524	278,561	400	+ 5.9	19,966
District Total..	3,079	15	2,144	1,312,122	426	+ 9.1	101,870

The head-quarters of these are at the places from which they are respectively named and the District head-quarters are at SAIDAPET. Chingleput is the smallest District in the Presidency except Madras City and the Nilgiris, but the density of the population of every taluk in it is considerably above the average for the Presidency as a whole and in Saidapet, which surrounds Madras and contains several villages which are practically suburbs of that City, it is as high as 767 persons to the square mile. The total population of the District in 1871 was 938,184; in 1881, 981,381; in 1891, 1,202,928; and in 1901, 1,312,122. Since the first of these years it has increased by one-third and in the decade 1891-1901 the rate of growth was above the average for the Province and in Saidapet taluk was as much as 17 per cent. Immigration from North Arcot is considerable, but is more than counterbalanced by the movement from the District itself into Madras City. The villages

in Chingleput are usually small, averaging only 524 inhabitants apiece. It contains fifteen towns of which two, namely Conjeeveram (population 46,164) and Chingleput (10,551), are municipalities and the others are Unions.

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DISTRICT.

Of the people of Chingleput, 1,255,257, or 96 per cent., are Hindus, 30,010 are Musalmāns and 26,466 are Christians. These last increased at the rate of 40 per cent. in the decade 1891-1901. About two-thirds of them are Roman Catholics. The District is one of seven in the Presidency in which, for some reason which has never been satisfactorily explained, females, contrary to the usual rule, are fewer than males. Though it really belongs to the Tamil country it marches with Telugu Districts on the north and west and in its north-western tāluk, Tiruvallūr, Telugu is the prevailing vernacular. In the District as a whole, nearly a fourth of the people speak Telugu and about three-fourths talk Tamil.

Owing to its proximity to Madras, Chingleput contains a high proportion of Europeans and Eurasians. The Hindus include 1,021,000 Tamils and 217,000 Telugus. Of the former as many as 321,000 belong to the low caste of Paraiyans and the high proportion of this community to the total population is one of the most notable facts in the social constitution of the District. The Pallis—who, like the Paraiyans, are mainly agricultural labourers—also occur in great strength, numbering as many as 262,000. Other castes which, though not numerically remarkable, are found in greater strength in Chingleput than elsewhere are the Pandārams, a class of Saivite priests and religious beggars many of whom officiate at the domestic ceremonies of the Vellālas; the Pattanavan fishermen; the Vedans, who are shikāris and agriculturists; and the Kannadiyans, a Kānarese caste of shepherds and cattle breeders most of whom are Lingāyats by sect.

Their
castes and
occupa-
tions.

The District is notorious for the disputes which occur in it, and especially at Conjeeveram, between the Vadagalai and Tengalai sub-sects of the Vaishnavite Hindus. The chief points of doctrinal difference between them are as follows: The Vadagalais prefer to read sacred books and chant in Sanskrit, while the Tengalais, although revering that language, attach greater value to their own vernacular. The Vadagalais believe the attainment of salvation to be aided by devotions, ritual and good works; the Tengalais assert it to be

CHINGLE- of grace alone. The former worship Lakshmi, the consort
PUT of Vishnu, as a goddess equal in power to her husband; the
DISTRICT. latter condemn this practice and insist that the goddess can
only intercede. The Vadagalais begin their prayers with
praise of Vedānta Desika (a saint born at Conjeeveram),
while the Tengalais begin theirs with adulation of the saint
Manavālamāmuni.

The occupations of the people of Chingleput differ little
from the normal. The District is somewhat less exclusively
agricultural than the average, but the reason for this is merely
that there are numerous fishermen along its coasts.

Christian Of the 26,466 Christians in the District in 1901, 23,714 were
missions. natives of India and 2,752 Europeans and Eurasians. Two-thirds
of them are Roman Catholics. The Wesleyan, United Free
Church of Scotland and London Missions are the chief Pro-
testant missions at work. The Wesleyan Mission carries on
its operations in the Madurāntakam and Saidapet taluks and
the Free Church Mission in Chingleput, Conjeeveram and
Ponneri. These bodies maintain a large number of schools
for Hindus and Panchamas (depressed castes) of both sexes.
Their work among the Panchamas is partly religious, partly
social and partly educational. They have lent their assistance
to enable thrifty individuals to hold land, the missions them-
selves in some cases buying or holding this for them, and the
United Free Church Mission has founded three peasant
settlements to improve the condition of the community. The
principal of these is Melrosapuram, within an easy drive of
Chingleput, which was started in 1893. Here is a school in
which boys are taught agriculture, the extraction of plantain
fibre, rope-making, and blacksmiths' work, so that they may
be able to mend their implements. The valuable experiments
in well-irrigation which have been made here are referred to
below.

General
agricultu-
ral condi-
tions.

There are three classes of soil in the District, black, red
and arenaceous, each of which has three varieties, namely,
loam, clay and sand. In each class the loam is considered
the best, the clay next best, and the sand the worst. The
black and the red soils are well suited for cultivation purposes,
the black being generally the more fertile of the two, but the
arenaceous soil, which occurs in a wide strip all along the sea-
shore, is fit only for the plantations of casuarina which abound

PRINCIPAL CROPS.

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in the coast villages. The red soil predominates in the northern taluks of Tiruvallūr, Ponneri and Saidapet, while the black soil is commonest in the south in Chingleput, Conjeeveram and Madurāntakam. The southern portion of the District is consequently more fertile than the northern. September is the month in which the sowing of the crops chiefly takes place, one-fourth of the dry land and nearly one-third of the wet land being planted then. Next in importance comes October.

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DISTRICT.

The District is principally ryotwāri land, but zamīndāri and whole inām areas cover as much as 950 square miles out of the total of 3,079 square miles. For these, detailed statistics are not available and the area for which particulars are on record is 2,439 square miles. In 1903-04 this was made up as shown below, areas being in square miles :—

Chiefagri-
cultural
statistics
and prin-
cipal
crops.

Taluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irrigated.
Tiruvallūr ..	456	104	38	216	121
Ponneri ..	308	6	9	172	96
Saidapet ..	311	14	10	208	101
Chingleput ..	382	65	31	164	95
Conjeeveram ..	447	8	11	276	150
Madurāntakam ..	581	17	35	299	139
District Total ..	2,435	214	184	1,335	702

Of the culturable waste a large proportion is covered with very poor soil, but a considerable area may be expected to come gradually under cultivation as the population increases.

The staple food-grains of the District are paddy and *rāgi* (*Eleusine coracana*), the areas under which were 927 and 97 square miles respectively, or, taken together, three-fourths of the total extent sown (1,347 square miles) in the year 1903-04. The other crops chiefly cultivated are *varagu* (*Paspalum scrobiculatum*), indigo, gingelly, *cambu* (*Pennisetum typhoideum*) and ground-nut. *Varagu* is mostly cultivated in the Madurāntakam taluk on inferior sorts of dry land; indigo, *cambu* and ground-

CHINGLE- nut chiefly in the Tiruvallūr taluk ; and gingelly in Conjeeveram
PUT and Madurāntakam.

DISTRICT. Methods of cultivation are the reverse of careful. Much of the soil is poor and much of the land is held by absentee landlords who sub-let it to cultivators whose means are small and whose tenancy is insecure. Good farming is thus a rarity, manuring and weeding are neglected and much of the District has a poverty-stricken appearance. At Saidapet is the Government Agricultural College, but it cannot be claimed that the ryots have greatly profited by its teachings. In one direction, however, there are signs of improvement and that is in the number of wells which have recently been dug or repaired. In the sixteen years ending with 1904 more than $5\frac{1}{2}$ lakhs were borrowed by the ryots under the Land Improvement Loans Act for this purpose. The farm-school at Melrosapuram belonging to the Free Church Mission, which has already been alluded to, has conducted certain valuable experiments on the capabilities of wells equipped with pumping machinery which ought to do much to extend this form of irrigation. A well on the farm was fitted with an oil-engine of $3\frac{1}{2}$ H. P. and a pump ; it was deepened and four adits made at the bottom ; and a new well was sunk close by to serve as a storage basin and joined to the other by another adit. By these means the inflow was greatly increased and with the help of the pump the well was made to irrigate twenty acres against five before. It is considered certain that the area watered by it is capable of even further extension. Valuable crops such as sugar-cane and plantains are now grown by this means, and the value of the produce is from eight to twenty times what it formerly was. Large quantities of manure and tank silt are used on the land. Around the well are hundreds of valuable fruit trees, which give the place a flourishing appearance. The ryots of the District have taken much interest in these experiments and Government has sanctioned the establishment in other places of five schools similar to that at Melrosapuram and is also conducting further experiments in the use of pumping-machinery in connection with wells.

Cattle and sheep.

No breed of cattle is peculiar to the District. Those raised in it are mostly poor animals, as there are few good grazing grounds. The best cattle are those imported from the adjoining Districts. The goats and sheep are of the ordinary varieties,

Of the total area of ryotwāri and minor inām lands cultivated in 1903-04 (1,335 square miles), 702 square miles, or more than half, were irrigated. By far the larger part of this extent (619 square miles) was watered from tanks or artificial reservoirs. These number 2,553 and are mostly rainfed. Some of them, however, are supplied from channels led from the rivers already mentioned above. The most important of these are the Red Hills and Sholavaram tanks fed from the Korttalaiyār, which irrigate on an average an area of 9,054 acres in the Ponneri and Saidapet taluks and the former of which supplies Madras City with water; the Vallūr tank in Ponneri taluk supplied from the Arani river; the Chembrambākam tank in Saidapet, which is fed from the Cooum and irrigates 18,000 acres in 37 villages; and the tank at UTTARAMERUR fed by the Cheyyār. Other tanks of importance are those at MADURANTAKAM, KARUNGULI, Edamichi and Periamkolam in the Madurantakam taluk, at SRIPERUMBUDUR, at Tenneri and Manimangalam in the Conjeeveram taluk and at Tinnanūr and Ambattūr in Saidapet. Besides these tanks, 158 river, and 340 spring, channels irrigate about 50,000 and 7,350 acres respectively. Wells form an additional source of irrigation, and there are 32,650 in the District, most of which are unfailing except in years of severe drought. Water is drawn from them either by *picottahs* (long wooden levers with a bucket at one end which are actuated by two or more men walking backwards and forwards along them) or by *kappilais* or *mots* (leather buckets pulled up by a rope and pulley worked by bullocks).

CHINGLE-
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DISTRICT.
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Irrigation.

The District has little real forest-growth. There are 94 reserved forests, occupying 214 square miles, but they mostly consist of low scrub except the forests about the Kambākkam and Nāgalāpūram hills in the Tiruvallūr taluk, where there is some timber. The latter make up nearly half the forest area in the District. They have been under conservation for the past eighteen years and abandoned fields included within the protected areas have become clothed with a growth of good material which is steadily improving both in condition and in size. The other reserves, lying in the plains, consist mostly of inferior trees and small shrubs only capable of yielding faggot-wood, manure-leaves and bark. The greater part of these (65 square miles) are in the Chingleput taluk. The chief

Forests.

CHINGLE-
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DISTRICT.

value of the reserves at present is to serve as a grazing-ground for cattle. The total net revenue realized from them in 1903-04 was Rs. 13,000. They are administered by a District Forest officer under whom are two range officers.

Minerals.

The minerals of the District are few. Some years ago, on the hills round Chingleput, a very good felspar useful for glazing pottery used to be found. The best variety was of a fresh pink colour passing into a deep purple, variegated and glistening with a curious play of colours. It is the same kind as that which used to be imported from Sicily into England. Another species found in the same locality was called Labrador felspar. Its colours were dark and the stone was used in Europe as an ornamental pebble. Among the hills to the north and north-west of Chingleput tank has been found a very scarce variety of granite. The colours were pale green, flesh-colour, grey, black and white, and they became very brilliant when polished. Unfortunately it existed in very small quantities, but its value may be gathered from the fact that it used to command a sale in Europe in pieces as small as four inches by two inches. It was used for pedestals for busts and for making small polished table-ornaments. No one has taken the trouble to work either the felspar or the granite and the fact of their existence appears to have been forgotten. In the clayey estuarine beds to the north of Madras concretionary masses of gypsum and crystals of selenite occur, but not in any great abundance. Supplies for making plaster of Paris for use in the School of Arts at Madras have, however, been obtained from this source.

Arts and
Manufac-
tures.

Next to agriculture, cotton and silk weaving form the most important occupations of the people. Statistics show that there are over 11,000 looms in the District, more than half of them being in the Conjeeveram taluk. Very excellent muslins were formerly made at Arni in the Ponneri taluk, but the industry has died out. Superior cloths of silk and cotton such as the native women wear are made at Conjeeveram. Coloured check fabrics are manufactured in some villages, especially in the northern part of the Tiruvallūr taluk, and are exported to Penang. Similar checks and other stuffs are made also in the Chingleput Reformatory School.

There are some tanneries, but the industry (which a few years ago was of considerable importance) is languishing on account of the adoption of the chrome process of tannage in

America and elsewhere. The skins are now sent to Madras after being merely dried and are exported thence. The trade is chiefly in the hands of Musalmāns.

CHINGLE-
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DISTRICT.

A cigar factory at Guindy owned by Messrs. Oakes & Co. employs 800 hands daily. Ten small paper-making establishments at SEMBIEM near Madras provide work for ten or a dozen persons each. The District also contains nearly 400 indigo vats and 500 of the ordinary country oil-mills. The Madras Railway has large workshops at Peramlūr, just outside the limits of Madras City, in which 4,500 persons are employed daily.

Though the District has a long sea-board, this possesses no single place which can be called a harbour or which offers any facilities for shipping. There are therefore no recognised ports within its limits and its small sea-borne trade is conducted through the port of Madras. Having no manufactures and no natural products of importance and being a comparatively infertile area the District does but little commerce of any kind. Its chief trade consists in supplying the population of Madras City with the ordinary local products, such as dried cow-dung fuel, firewood, grain, vegetables, meat, straw, grass, sand, laterite, bricks and so forth. In return it imports from Madras the usual foreign goods, such as kerosene oil, European piece-goods, metals and so on, which are required by its villagers. There can hardly be said to be any real centres of trade within it. Unimportant weekly markets are held in Uttaramerūr in the Madurāntakam tāluk, Wāljābād in Conjeeveram and Vallūr in Ponneri. The money-lending of the District is largely in the hands of Mārwaris, who are prominent in such places as Saidapet, Poonamallee and Pallāvaram. Much of it is also done by a number of mutual benefit and loan societies registered under the Indian Companies Act, the nominal capital of which is as much as Rs. 5,88,000.

Com-
merce.

Since Chingleput surrounds Madras it is traversed by the three lines, the south-west and north-east sections of the Madras Railway and the South Indian Railway, which start from that city. It is accordingly well provided with railway communication. The south-west line of the Madras Railway (standard gauge) enters the centre of the District at Siruvallūr, a few furlongs from the Peramlūr railway station on the confines of Madras City. It runs due west through the Saidapet and Tiruvallūr tāluks and then passes into North Arcot to the

Railways
and
Roads.

CHINGLE- junction of ARKONAM. This section was opened in 1856. The
PUT entire length of $27\frac{1}{2}$ miles within the District has a double line.

DISTRICT. The north-east line of the Madras Railway (also on the
— standard gauge), which is a State railway opened in 1899 and
worked since 1901 by the Madras Railway Company, enters the
District two miles from Tondiarpet, a suburb in the north of
Madras, runs due north as far as Ennore and thence passes
north-westwards through the Ponneri taluk, crossing the Kort-
talaiyār and Arani rivers by fine bridges, into the Nellore District.
The length of the section in the District is $28\frac{1}{2}$ miles.

The main line of the South Indian Railway (metre gauge)
enters Chingleput from the west of Madras and runs south
through the Saidapet and Chingleput taluks, crosses the Pālār
river by a girder bridge of 18 spans of 120 feet each, passes
through Madurāntakam taluk and on into the South Arcot
District. The portion within the District is 61 miles in length
and was opened in 1876. A branch line connects Chingleput
with Conjeeveram, and runs on towards Arkonam, the total
length of this connecting chord within the District being 29
miles. All the three lines which lead into Madras run special
office trains for the benefit of officials and others who have
daily business in the City.

The construction by private enterprise of tramways on five
roads in the District, four of which are close to Madras, has
recently been sanctioned. These trainways will be on Ewing's
mono-rail system and will be worked by horse and bullock
power. One of them, from Poonamallee to the Avadi station on
the Madras Railway, has been opened.

The District is well-provided with roads; all of them are
maintained by the local boards. The total length is 717 miles,
of which 659 miles are metalled. There are avenues along 594
miles. The chief lines are the southern, western and northern
trunk roads. The first of these leads southwards into the South
Arcot District, running parallel to the South Indian Railway
line, through the Saidapet, Chingleput and Madurāntakam taluks.
The second runs westward from Madras through the Saidapet
and Conjeeveram taluks and leads to the North Arcot District,
while the third passes northwards into the Nellore District
through Saidapet and Ponneri. Owing to the situation of the
City of Madras in the heart of the District the traffic on all the
trunk roads is very heavy.

Along the whole of the coast of Chingleput runs the Buckingham Canal. It utilises the backwaters with which the shore is fringed and places the District in direct communication by water with South Arcot to the south and, on the north, with all the coast Districts as far as Godāvāri.

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Chingleput suffered four times from famine in the eighteenth century; in 1733, owing to general neglect of its irrigation works; in 1780, in consequence of Haidar's invasion; in 1787, from the failure of the rains; and in 1785, as the result of a great cyclone which damaged the tanks and channels; and five times since the beginning of the last century, namely in 1807, 1824, 1833, 1876-78 and 1891. It has also in several other years (notably in 1867-68, 1868-69 and 1900-01) been affected by less serious scarcities. Its proximity to the seashore and its numerous railways and the resultant facilities for the supply of grain render improbable the occurrence of any actual dearth of food, but though it is not included within the famine zone of the Presidency, the crops are always more or less precarious. This is more especially the case owing to the facts that a large area of land usually produces rain-fed paddy which requires good showers to save it from failure, and that the irrigation works are nearly all dependent upon local rainfall and dry up if the season is unfavourable. The six largest irrigation works, for example, will in ordinary seasons supply 55,400 acres, but in a bad year they are unable to protect more than 15,000 acres. The minor irrigation works protect about 335,400 acres of crop in ordinary years but in a year of prolonged drought not more than 41,000. The area protected by wells is also small. The worst famine on record was that of 1876-78, the Great Famine, as it is called. The average number of persons relieved daily in the District during the 22 months for which this lasted was 40,000 and in September 1877 the figure was as high as 116,000, or over 12 per cent. of the total population. Probably, however, a proportion of these were people from other Districts; stories had circulated freely among the natives of the ample supplies of food available in Madras City and they flocked thither in thousands through Chingleput.

The taluks are grouped for general administrative purposes into three sub-divisions, one of which is in charge of a member

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District
sub-divi-
sions and
staff.

of the Indian Civil Service, each of the other two being under a Deputy Collector. The Civilian takes the Chingleput sub-division, comprising the Chingleput, Madurāntakam and Conjeeveram tāluks; one of the Deputy Collectors the Saidapet sub-division, consisting of the Saidapet tāluk; and the other the Tiruvallūr sub-division, which includes Tiruvallūr and Ponneri. A tahsildār is stationed at the head-quarters of each of the tāluks and a stationary sub-magistrate also. In addition, there are deputy tahsildārs (who are also sub-magistrates) at Poonamallee (Saidapet tāluk), Sriperumbūdūr (Conjeeveram tāluk), Uttaramerūr (Madurāntakam tāluk), and Satyavedu (Tiruvallūr tāluk). The superior staff of the District includes the usual officers, except that the Executive Engineer has his head-quarters at Madras and has also charge of the Buckingham Canal. The Collector's office and residence is at Saidapet, while the District Court is at Chingleput (where the District Medical and Sanitary Officer also resides) and the Superintendent of Police lives at Saint Thomas' Mount.

Civil Jus-
tice and
Crime.

Civil justice is administered by the District Court and four District Munsiffs stationed respectively at Chingleput, Conjeeveram, Poonamallee and TIRUVALLUR. A large proportion of the civil litigation is made up of suits under the tenancy law. These are more numerous than in any other District except three, the average annual number of them being about 1,250. Crime is usually light in Chingleput, its population not including any large number of the habitually criminal castes. Recently dacoities have increased considerably, but this is apparently due only to temporary causes.

Land Re-
venue ad-
ministra-
tion.

Very little reliable information is available regarding the revenue history of the District before it was granted to the East India Company as a jāgīr. Under the Hindu sovereigns the crown received a share of the produce of each village or township, the government having nothing to do with individual cultivators. Under the Musalmāns the government's share of the produce was farmed out to renters to collect, and oppression and confusion were rampant. When the Company obtained the country they at first rented it to the Nawāb himself for a fixed sum. His management was as bad as any administration could be. Absurdly high estimates of the yield of each village were made, and reduced to some extent after fees had been paid to officials and to the Nawāb himself. In

1783 the lease to the Nawāb terminated and the Company assumed direct management of the Jāgīr. It was placed under the control of the Committee of Assigned Revenues appointed to manage the Nawāb's possessions in the Carnatic. This committee divided it into fourteen farms and rented them out on leases for nine years from 1783 to 1791 on progressive rents. But most of the renters failed before the fourth year and hardly any of them were able to tide over the sixth, and thereupon almost all of them were deprived of their farms. After the termination of these leases the Jāgīr was parcelled out into smaller allotments and granted on triennial leases to the principal inhabitants. Under this system the revenue improved. In 1794 Mr. Lionel Place, whose name is still remembered in the District, was appointed Collector. He found that the receipts under the triennial leases did not represent the amount properly due to the Company and he endeavoured to remedy matters by making a careful investigation of the sources of the land revenue and a thorough enquiry into the rights and privileges of the ryots as well as by bringing to light abuses in the collection and management of the assessment. He made a settlement of the land, based on the estimated outturn of the produce of each village commuted into a money payment, and the principal landholders were held responsible for the collection and payment of the revenue to the Government. This system, however, involved a recognition by Government of inconvenient rights, and was not approved. In 1801-02 a permanent settlement was introduced; the country was divided into 64 estates, paying an annual revenue of from Rs. 7,000 to Rs. 16,000, the rights to the collections in which, subject to the payment of a fixed revenue to Government, were sold by auction. The fixed revenue was based on an examination of the condition of each village in respect to ploughs, live-stock, means of irrigation and fertility, checked by reference to the accounts of ten years prior and subsequent to 1780 and the revenue of 1798-99. This system was, however, found to work very unsatisfactorily, as no allowance had been made for bad seasons and the amounts which the ryots could pay had been estimated on so high a scale that the purchasers of the estates made but little profit. In consequence many sales of their land took place and considerable portions of the estates were resumed and again rented out village by village on triennial leases. In 1803 the ryotwāri

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system was introduced into a portion of the Jāgīr. The land was surveyed and classified into wet, dry and garden, the two former being further sub-divided into grades in accordance with their soil. The rates of assessment were arrived at by taking the estimated average outturn of each field in ten average years, deducting 20 per cent. for cultivation expenses and then apportioning the residue equally between the Government and the ryot. The Government's share was then converted into a money equivalent. This arrangement was popular with the ryots and the revenue of the tract where it was introduced rose by nearly one-third. In 1816 the favourable results of the survey and settlement of the CEDED DISTRICTS under Sir Thomas Munro induced the Government to order its introduction in the whole of this District and it has continued in force up to the present day. Between 1870 and 1874 the District was systematically surveyed and from 1872 to 1879 a re-settlement was made in it. The survey showed that the area in occupation was 11 per cent. more than had been shown in the old accounts and the settlement resulted in an increase of 4 per cent. in the total assessment. The average assessment on dry land is R. 1-8-7 (maximum, Rs. 4; minimum, as. 4) and that on wet land Rs. 4-6-8 (maximum, Rs. 7-8-0; minimum, Rs. 2). The District will very shortly be re-settled. The revenue from land and the total revenue in recent years are given below in thousands of rupees:—

—	1880-81.	1890-91.	1900-01.	1903-04.
Land revenue.	2,190	1,602	1,976	2,351
Total revenue.	2,606	2,234	2,761	3,294

Local
boards.

Outside the municipalities of Chingleput and Conjeeveram, the local affairs of the District are managed by the three taluk boards of Chingleput, Saidapet and Tiruvallūr under the immediate supervision of the District board. The areas in charge of the taluk boards correspond with those of the three revenue sub-divisions already given above. There are 18 Unions, managed by panchāyats established under Act V of 1884, composed of some of the smaller villages.

The expenditure of all these bodies in 1903-04 was some Rs. 2,81,000, more than half of which was laid out on public works. The chief source of their income was, as usual, the land cess.

The District Superintendent of Police at Saint Thomas' Mount has general control over the police throughout the whole District. There are 63 police-stations (including outposts) and the force numbers 687 constables working under 12 inspectors besides 1,001 rural police. A force of Reserve police at headquarters numbers 119 men under an inspector.

No Central jail is maintained in the District, convicts being sent to the Madras Penitentiary or to the jails at Vellore and Cuddalore in the North Arcot and South Arcot Districts respectively. There are ten subsidiary jails situated at the headquarters of the various tahsildars and deputy tahsildars, with accommodation for 305 persons. The Reformatory School for juvenile offenders at Chingleput is referred to in the separate article on that place.

According to the census of 1901, Chingleput stands sixth among the Districts of the Presidency in regard to the literacy of its people, 7·8 per cent. of them (14·4 males and 1·0 females per cent.) being able to read and write. Education is most backward in the Ponneri taluk and in the Satyavedu side of Tiruvallūr.

The total number of pupils under instruction in the District in 1880-81 was 14,329; in 1890-91, 24,724; in 1900-01, 34,308; and in 1903-04, 38,364. On the 31st March 1904 there were within it 833 primary, 25 secondary and seven special, schools and two colleges, besides 422 private schools. Of the 867 institutions classed as public, nine were managed by the Education department, 38 by local boards and six by municipalities, while 513 were aided from public funds and 301 were unaided but conformed to the rules of the Education department. The majority of the pupils were in primary classes and the number of girls beyond that stage was small.

Of the total male population of school-going age, 24 per cent. were in the primary grade of instruction and of the female population, 4·8 per cent. Among Muhammadans the corresponding percentages were 56·8 and 7·6 respectively. There were 272 schools, containing 5,911 pupils, for Pan-chamas.

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—
Police
and Jails

Educa-
tion.

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The special schools include the Reformatory School at Chingleput and the technical classes at St. Patrick's Orphanage at Adyar. The two colleges are the Teachers' College and the Agricultural College, both at SAIDAPET. The latter will shortly be removed from this District. A high school for practising purposes is attached to the former.

The total expenditure on education in the District during 1903-04 was Rs. 3,37,000, of which Rs. 73,000 were derived from school fees. Of this amount 41 per cent. was devoted to primary education.

Hospitals
and dis-
pensaries.

There are fourteen dispensaries in the rural areas in the District, two hospitals in the two municipal towns of Conjeeveram and Chingleput and a dispensary for women and children at Conjeeveram. The rural dispensaries are maintained by the local boards, which also contribute Rs. 2,500 and Rs. 1,400 respectively towards the upkeep of the Municipal medical institutions. In the hospital at Conjeeveram is a maternity ward which was built by Rājā Sir Savalai Rāmaswāmi Mudaliyār. The Chingleput hospital possesses an endowment in Government securities of Rs. 24,000. In 1903 these institutions treated 182,000 cases, of whom 900 were in-patients. The number of operations performed was 6,000. The expenditure in the same year was Rs. 36,000, the bulk of which was met from local funds.

Vaccin-
ation.

For some years vaccination in this District has not been progressing, but during 1903-04 there was some improvement and the number of persons successfully vaccinated was 42,000, or 32 per mille of the population. Vaccination was made compulsory in 1902 in all villages within a radius of five miles from the head-quarters of each sub-magistrate. It is also compulsory in the two municipal towns of Chingleput and Conjeeveram and in the cantonments of Pallāvaram and Saint Thomas' Mount.

C. S. Crole, *Chingleput Manual*, 1879.

Tiruvallūr Sub-division.—A sub-division of the Chingleput District of the Madras Presidency consisting of the TIRUVALLUR and PONNERI taluks.

Tiruvallūr Taluk.—Taluk in the north-western corner of the Chingleput District of Madras lying between 13° 3' and 13° 47' N. and 79° 44' and 80° 7' E. It is 744 square miles in area and contained a population of 253,973 persons in 1901

against 236,939 in 1891. This is the most sparsely peopled taluk in the District, the density per square mile being 341. It includes one town, TIRUVALLUR, population 9,092, which is its head-quarters, and 464 villages. The land revenue and cesses demand amounted in 1903-04 to Rs. 4,32,000. The soil of Tiruvallūr is generally either a sandy or a red ferruginous loam, neither of which is fertile. The rainfall averages about 41 inches, the lowest in the District. The country is mostly flat and uninteresting, but in its north-western corner two ranges, known as the Nāgalāpuram and Satyavedu hills, relieve the monotony of the plain and furnish some hill scenery. Kambākkam Drug, the highest point among them, is 2,548 feet above the level of the sea. The Korttalaiyār, the Araniya Nadi or Arani river, and the COOUM irrigate the taluk.

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Ponneri.—A taluk in the north of the Chingleput District of Madras. It is 347 square miles in area and lies between 13° 11' and 13° 34' N. and 80° 2' and 80° 21' E. on the shore of the Bay of Bengal. The population was 136,597 in 1901 against 122,418 in 1891. Ponneri contains the town of PULICAT, population 5,448, and 240 villages (including its head-quarters, Ponneri) and its land revenue and cesses demand amounted in 1903-04 to Rs. 2,70,000. The Korttalaiyār and the Araniya Nadi flow through the taluk which is an uninteresting tract of nearly level land sloping towards the sea. The coast is fringed with a line of hillocks of blown sand inside which are a series of backwaters connecting Ennore with the Pulicat lake. The annual rainfall is 47 inches, or slightly more than the District average.

Saidapet Tāluk.—A taluk and revenue sub-division of the Chingleput District of Madras lying between 12° 51' and 13° 14' N. and 80° 0' and 80° 20' E. on the Bay of Bengal. It is 342 square miles in area and surrounds on all sides but the east the City of Madras, a fact which has much influence upon its people and conditions. Its population in 1901 was 262,478 against 224,472 in 1891, the marked increase of nearly 17 per cent. being due to its containing several villages which are really suburbs of Madras. The density of its population, 767 to the square mile, is higher than in any other taluk in the District. The land revenue and cesses demand in 1903-04 was Rs. 3,44,000. It contains six towns and 254 villages. SAIDAPET, population 14,254, is the head-quarters of the taluk and

CHINGLE- of the District. The other five towns are SEMBIEM, popu-
PUT lation 17,567, TIRUVOTTIYUR (15,919), SAINT THOMAS'
DISTRICT, MOUNT (15,571), POONAMALLEE (15,323) and PALLA-
— VARAM (6,416). The Korttalaiyār, the Cooum and the Adyar
rivers flow through the tāluk. Its general appearance is flat
and uninteresting but here and there occur hills of no great
elevation, on many of which are perched either a temple or a
bungalow, which serve to relieve the monotony of the aspect.

Chingleput Sub-division.—A sub-division of the Chingleput
District of the Madras Presidency consisting of the CHIN-
GLEPUT, CONJEEVERAM and MADURANTAKAM tāluks.

Chingleput Tāluk.—Tāluk lying on the shore of the Dis-
trict of the same name in the Madras Presidency between 12°
29' and 12° 54' N. and 79° 52' and 80° 15' E., and occupying
an area of 436 square miles. Its population in 1901 was
155,213 against 137,291 in 1891, the rate of increase in the
decade, 13 per cent., being much greater than in the District
as a whole. It contains two towns and 298 villages. CHIN-
GLEPUT, population 10,551, is its head-quarters and TIRUK-
KALIKKUNRAM (5,728) is one of its most sacred places.
The land revenue and cesses demand in 1903-04 amounted to
Rs. 2,82,000. The soil is mostly red ferruginous loam in the
interior and sandy towards the east. Generally speaking, the
country is rocky and poor, but much of it is covered with low
hills and scrub jungle, and in appearance it is consequently
much more diversified and picturesque than the rest of the
District. The only river irrigation is that from the PALAR,
from which spring channels, which bring the water directly to
the fields, and flood channels, which fill the tanks when freshes
come down, are led. The bulk of the irrigation is from rain-
fed tanks with small catchment basins, and is consequently
precarious.

Conjeeveram Tāluk.—Tāluk on the western boundary of
the Chingleput District of the Madras Presidency lying between
12° 42' and 13° 8' N. and 79° 34' and 80° 5' E. Its area is
514 square miles and its population was 225,300 in 1901 against
218,671 in 1891, the rate of advance being smaller than in
any other tāluk. It is the only part of the District in which
the females are in excess of the males. There are two towns,
namely, CONJEEVERAM, population 46,164, its head-quarters,
and SRIPERUMBUDUR (5,481), the station of a deputy

talhsildār, and 364 villages. Of these last, PERAMBAKKAM possesses some historical interest. The land revenue and cesses demand in 1903-04 amounted to Rs. 5,68,000. The soil of the taluk is generally very inferior, being either stony or mixed with lime, gravel, or laterite. Its general appearance is tame and dreary in the extreme, there being only one or two low conical hills in the north-east. The general level rises gradually but considerably from the river PALAR towards the north and west. Along the northern bank of this river, palmyra, cocoa-nut and tamarind trees have been largely planted. It is the chief source of irrigation, but the Korttalaiyār also furnishes a supply to a few villages in the north-west. The water from the Pālār is led either by direct flow from the river or by spring channels dug on both banks. A channel called the Kambakkal also takes off at the dam which has been built across the river in the North Arcot District to supply the Kāveripāk tank. This flows along a ridge which runs on the western and northern sides of the taluk, and fills chains of tanks, sometimes two, three, and four in number, on each side of its course.

Madurāntakam Tāluk.—The southernmost taluk of the Chingleput District (Madras) situated on the coast of the Bay of Bengal between $12^{\circ} 15'$ and $12^{\circ} 46'$ N. and $79^{\circ} 38'$ and $80^{\circ} 9'$ E. Its area is 696 square miles and it contained a population of 278,561 in 1901 against 263,137 in 1891. It includes three towns, MADURANTAKAM, the head-quarters, population 6,266, UTTARAMERUR (10,432) and CHEYUR (5,210) and 524 villages, and the land revenue and cesses demand in 1903-04 was Rs. 5,39,000. The PALAR and Kiliyār rivers run through the taluk. The soil is generally a red ferruginous loam, but becomes sandy as the sea is approached. The taluk is, however, more fertile than its neighbours. Its surface is generally undulating and its northern portion is studded here and there with a few low hills, while towards the south run two long ridges, rising in places into small peaks, which stand one behind the other at distances, respectively, of seven and fourteen miles from the sea. A strip of land separated from the mainland by backwaters runs down the coast. It is called the Idaikalinādu, or land between backwaters, and tradition says that it was parted from the rest of the taluk by an irruption of the sea. A pious shepherd, says the story, was warned of

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the approaching deluge, took precautions accordingly, and was saved with his whole flock. The tract in question is covered with cocoa-nut trees which yield the best nuts in this neighbourhood. They are largely exported to Madras.

Cheyūr.—Town situated 13 miles south-east of Madurāntakam in the tāluk of that name in the Chingleput District of Madras in $12^{\circ} 21' N.$ and $80^{\circ} E.$ Is the chief place in the Cheyūr zamīndāri and a Union. Its population in 1901 was 5,210. Cheyūr contains three temples, dedicated to Kailāsanāthar, Subrahmanya, and Vālmikanāthar, in which are valuable inscriptions relating to the Chola dynasty. It also contains extensive salt-pans. A weekly fair is held every Thursday.

Chingleput Town.—The head-quarters of the tāluk of the same name in the Chingleput District (Madras) lying in $12^{\circ} 41' N.$ and $79^{\circ} 58' E.$, 36 miles south-west of Madras and half a mile from the northern bank of the PALAR. Population 10,551 (1901). It owes its importance to the fact that it is a junction on the railway and the head-quarters of the District Court, the Revenue Divisional Officer, the District Medical and Sanitary Officer, a District Munsiff and a tahsildār, though it merely consists of several small villages which have been clubbed together to form a municipality. The fort dates from the 16th century and it was once, together with CHANDRAGIRI in North Arcot, the capital of the fallen Vijayanagar kings after their dynasty had been overthrown by the Musalmāns at the battle of Tālikotā in 1565. A local chief subject to these kings granted the Company in 1639 the land on which Fort St. George now stands. Tradition speaks of a certain Timmarājā, possibly the minister of that name of the Vijayanagar king Krishna Deva, as the founder of the fort. Its strength lay largely in its swampy surroundings and the lake which flanks one side. The Muhammadans eventually seized it and later on the French acquired possession of it in 1751. Clive bombarded and took the fort from the French in 1752 and throughout the campaign it continued of the first importance to the British, serving now as a place of confinement for the French prisoners, now as a depôt for war material, and again as a centre for operations against the turbulent chieftains of the neighbourhood. After the reduction of FORT ST. DAVID, the Madras Government, apprehensive of an attack on Madras, called in all garrisons and stores from outlying forts; and Chingleput was

thus abandoned in 1758. A juster view of its importance soon, however, persuaded the Government to re-occupy it and while the French were advancing from the south a strong garrison was thrown into it from Madras. Lally, the French General, arrived just too late, and, finding it impregnable except by a regular siege, made the mistake of leaving it in his rear and passing on to Madras. During the siege that followed the garrison of Chingleput rendered invaluable assistance, not only by securing the country north of the Palār, but by sallying out with disastrous effect upon the rear of the investing enemy. In 1780, the British troops, after the destruction of General Baillie's force, found refuge here and during the wars with Haidar Ali of Mysore, Chingleput was once taken by the enemy and re-occupied by the British, and twice unsuccessfully besieged. It then remained uninterruptedly in the hands of the Company. A cave, a mile east of Chingleput, which was originally intended for a Buddhist hermit's cell, has now been made into a Siva temple.

Chingleput was constituted a municipality in October 1896. The average receipts and charges of the council in the five years ending with 1902-03 amounted to Rs. 13,000; in 1903-04 they were Rs. 17,500 and Rs. 15,300 respectively. The income was chiefly derived from house and land taxes and from tolls. The health of the town is generally good, and the climate, except during the height of the hot winds, moderately cool. It is almost entirely surrounded by a number of hills, none of them much exceeding 500 feet in height, and these together with the large tank by the fort, already mentioned, and the several lesser sheets of water make it a very picturesque spot, especially after the rains. The big tank is two miles long by one broad and has been formed by banking up the drainage of the country for ten miles to the northward. The supply thus received is far in excess of what is required for the irrigation of the 200 acres or so which are dependent upon it, and it consequently contains a supply even in the hot weather, when other tanks have long since run dry.

Chingleput contains the Reformatory School of the Presidency. This was established in October 1881 and is intended for the reception of juvenile offenders whom it is undesirable to subject to the risk of contamination by the more hardened criminals of the regular jails. It was for some

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years under the control of the Inspector-General of Prisons but in 1888 was transferred to the care of the Director of Public Instruction. Boys are taught useful trades which may enable them to earn an honest livelihood when their term in the school has expired and endeavours are made to find them employment and keep touch with them after they have left the school. The industries taught include drawing, carpentry and wood-carving, work in iron and other metals, weaving and tailoring. The school has been a great success.

Conjeeveram Town.—The head-quarters of the taluk of the same name in the Chingleput District of Madras, standing 45 miles west-south-west of Madras on the branch line between Arkonam and Chingleput, in $12^{\circ} 50'$ N. and $79^{\circ} 42'$ E. It had a population in 1901 of 46,164 persons, namely, 44,684 Hindus, 1,313 Musalmāns, 49 Christians and 118 Jains. The real name of the town is Kānchi or Kānchīpuram and the English form is merely a corruption of this. It is one of the most ancient towns in this ancient Province and in the early centuries of the Christian era was the capital of the great dynasty of the Pallavas. Early in the 7th century Hiuen Tsiang, the Chinese pilgrim, visited it and he says the city was six miles in circumference and the people in it superior in bravery and piety, as well as in their love of justice and veneration for learning, to many others whom he met with in his travels. Jains were very numerous in his day and Buddhists and Brāhmans of about equal influence. The town passed to the CHOLAS in the eleventh century. Conjeeveram became the capital of Tondamandalam, and continued in the hands of the Cholas until they were overthrown by the Musalmāns of the north in 1310. When the Vijayanagar kings came into power they speedily annexed the town. It was taken from them by the Musalmāns in 1646; the Marāthās succeeded in 1677; they were ousted by Aurangzeb's troops shortly after; and it remained in the possession of the Musalmāns till 1752, when Clive took it from them in the wars with the French. In 1757, the French, beaten off in an attack upon its great temple, set fire to the town. In 1758 the British garrison was temporarily withdrawn on account of the expected advance of the French upon Madras, but was soon sent back with reinforcements, and during the siege of the capital and the subsequent wars the place played an important part.

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Conjeeveram is now accounted by Hindus as one of the holiest places in the south, and it is indeed placed among the seven sacred cities of India. It is crowded with temples and shrines. Two of these, the Vaikuntha Perumāl temple to Vishnu and the Saiva temple of Kailasanāthar, appear from inscriptions to have been built by the Pallava kings. Two others were built about 1509 by Krishna Deva, the greatest of the Vijayanagar rulers, and many of its smaller shrines and rest-houses are due to the piety of members of the same dynasty. The great temple has some tall towers, a hall of 1,000 columns, several large and fine porches and great tanks with flights of stone steps. But these are all thrown together as if by accident and form no consistent plan. Fergusson says that in it "no two gopuras (towers) are opposite one another, no two walls parallel, and there is hardly a right angle in the place. All this creates a picturesqueness of effect seldom surpassed in these temples, but deprives it of that dignity we might expect from such parts if properly arranged." The Varadarājaswāmi Vaishnava temple is notorious for the endless bitter disputes which occur between the Tungalai and Vadagalai sub-sects of the Hindus who are connected with its worship. These have been going on for a century or more and the litigation regarding them has proceeded as far as the Privy Council. Decisions have been passed, but the interpretation to be placed upon these still gives occasion for disputes and threatened breaches of the peace which are apparently interminable.

Conjeeveram was constituted a municipality in 1866. The average receipts and charges in the ten years ending with 1902-03 were Rs. 86,000 and Rs. 77,000 respectively. In 1903-04 the income, most of which was derived from the taxes on houses and land and the water-rate, was Rs. 59,000 and the expenditure Rs. 54,000. A scheme for the supply of good drinking-water was begun in 1895-96 and completed in 1897-98 at a total cost of Rs. 2,56,000. The water is obtained from the subterranean springs of the Vegavati river, in the bed of which an infiltration gallery 330 feet long, 12 feet deep and 8 feet broad has been constructed. The water flows into a reservoir constructed at the end of the gallery and thence passes into a well through a steel pipe. From this well it is pumped into the town by two steam engines which are worked by turns. They are capable of supplying 840,000 gallons of water daily,

CHINGLE- but the actual consumption is only about half of this quantity.
PUT The annual cost of the establishment maintained is Rs. 2,600.
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Coom (Kūvam).—A river formed by the junction of the surplus waters of a tank in the village of Kūvam in the Conjeeveram tāluk of the Chingleput District of Madras and the old Bangāru channel. It irrigates Kadambuttūr, Tinnaunūr and other villages and from a dam thrown across it at Korattūr sends down a supply to the Chembrambākkam tank through the new Bangāru channel. It then irrigates Vayanallūr, Ayanambākkam and other villages of the Saidapet tāluk and finally flows through the town of Madras into the Bay of Bengal near Fort St. George. In the latter part of its course the stream (except in the rains) is insufficient to keep an open channel and a sand-bar forms across the mouth and converts the river into a brackish lagoon. At present some of the sewage of Madras passes into this and the stream has thus obtained an unsavoury reputation. The new drainage scheme for the City will, however, remove the sewage to a farm to the north and effect, it is hoped, a great improvement in the present condition of the lower reaches of the river.

Covelong (Kovalam).—Village in the Chingleput tāluk of the Chingleput District, Madras, situated on the east coast about 20 miles south of Madras in $12^{\circ}47'$ N. and $80^{\circ}15'$ E. Population 1,921 (1901). It was originally a Dutch settlement and the Imperial East India Company of Ostend seems to have had a trading-station there and to have built a fort. There are now no traces of either. The ruins at present in existence belong to the fort called Saadat Bandar, built by Anwar-ud-din Khān, Nawāb of the Carnatic from 1744 to 1749. In 1750 this was seized by stratagem by the French. A party of soldiers with arms concealed under their clothes and simulating extreme sickness were admitted into the fort by the kindly natives, who believed their tale that they were the scurvy-smitten crew of the ship which had just anchored off the coast, unable to proceed. During the night they rose and overpowered the garrison. In 1752 Clive invested the place and the French surrendered without firing a shot. The fortifications were then blown up. Covelong contains a Catholic church, an alms-house, and an orphanage founded and supported by a grant from the De Monte family, formerly rich

merchants of Madras. At the present day the place depends almost entirely on the manufacture of salt. The pans lie to the west of the village, and are of large extent.

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Ennore.—Village in Ponneri taluk, Chingleput District, Madras, situated on the shore of the Bay of Bengal and on the Madras Railway, in 13° 13' N. and 80° 19' E. Population 3,192 (1901). Its proper name is Kattivakkam. It was once a favourite resort for Europeans from Madras and contains several bungalows, built on the strip of land between the sea and the backwater, in which they used to stay, but it has now ceased to have any attractions owing to the prevalence in recent years of virulent malarial fever. Ennore is now only a fishing village and a centre of salt manufacture. The sand dunes along the coast at this point, which cover an area of about 20,000 acres, have been almost all taken up by private persons and converted into casuarina plantations. This tree yields rapid returns, attaining, in favourable localities, its full growth in about 15 years; and as there is a large and increasing demand for firewood in Madras, the enterprise has attained such proportions as to change materially the physical aspect of long stretches of the coast in this neighbourhood.

Karunguli.—A village in the Madurantakam taluk of the Chingleput District, Madras, situated on the South Indian Railway and on the southern trunk road, 48 miles from Madras, in 12° 32' N. and 79° 54' E. Population 4,065 (1901). It was the head-quarters of the District from 1795 to 1825 and subsequently continued for some years to be the head-quarters of a taluk. Karunguli fort was occupied as a strategic point during the wars between the English and the French, being regarded as an outpost of CHINGLEPUT, from which it is fifteen miles distant to the south-west. These two places, with WANDIWASH and UTTARAMERUR, formed a sort of quadrilateral on the line of attack between the seats of the two Governments of Madras and Pondicherry. As early as 1755 it was a point of dispute. In 1757 it was evacuated by the English in the face of advancing French troops. The following year the English attempted to recover it by surprise but were repulsed with loss, a failure which was repeated in 1759. But a few months later, Colonel Coote, after a few days' bombardment, captured the fort. This was the first decisive action in the successful campaign of 1759-60, which led to

CHINGLE- the victory at Wandiwāsh. The circumference of the fort
PUT is 1,500 yards and encloses the remains of what were appar-
DISTRICT. ently once huge granaries for the storage of grain, the tribute
— to the Muhammadan government out of the produce of the
neighbourhood. The Karunguli tank is fed from the overflow
of the Madurāntakam tank, and usually receives a plentiful
supply of water. A travellers' bungalow stands in the village,
a handsome old building in a grove of fine mango trees.

Madurāntakam Town.—The head-quarters of the tāluk
of the same name in the Chingleput District of the Madras
Presidency lying 50 miles south-west of Madras on the southern
trunk road in $12^{\circ} 31'$ N. and $79^{\circ} 53'$ E. With its hamlet
Kadapperi, it contains 6,320 inhabitants (1901), almost all of
whom are connected with the cultivation of the land irrigated
from the great tank which takes its name from the village. A
large number of the landholders are Vaishnavite Brāhmins.
This tank is the only noteworthy feature in the place. It
is formed by damming up a small river called the Kiliyār,
which rises in the hill at Wandiwāsh, and is one of the most im-
portant irrigation works in the District. It owes its existence
in its present form to Mr. Place, who was Collector at the
end of the 18th century. He connected and strengthened the
banks of two smaller tanks which he found there, and converted
them into one large tank with a surplus weir at the northern
end. This weir is one of the finest works of its kind in the
country, and is built in the form of a waved line, the height
from the crest to the bed of the river below being 30 feet.
The southern portion, especially, is a very curious and beauti-
ful specimen of masonry. Instead of being built in steps, the
descent is formed to imitate the curve which the flood water
takes in a fresh, and huge blocks of granite have been hewn
into this curve and are bound into their places with lead. An
inscription on the pillar at the northern end records that the
tank was completed by Mr. Place in 1798, after having been
twice carried away, and gives details as to the cost, etc. As
originally designed by Mr. Place, the tank was constructed to
irrigate five villages, besides Madurāntakam, through the four
sluices in its bank, and to supply the tank of Karunguli by
a channel, about one-fourth of a mile in length, mostly cut
through rock. The surplus weir was subsequently raised 2 ft.

3 in. and this channel was carried two miles further on from the weir of the Karunguli tank as far as Sanūr.

Pallāvaram.—Town and cantonment in the Saidapet tāluk of the Chingleput District, Madras, situated on the South Indian Railway, three miles south of Saint Thomas' Mount, in 12° 59' N. and 80° 10' E. Population 6,416 (1901). It used to be called the Presidency Cantonment, native troops being kept there for garrisoning and protecting the Presidency town. The temperature of the place is high but it is far from being unhealthy, and water is good and abundant. Pallāvaram is now a place of residence for European pensioners and a depôt for native infantry. It used to contain several tanneries, but the industry has declined in consequence of the introduction in America of the superior process of chrome tanning.

Perambākkam.—Village in the Conjeeveram tāluk of the Chingleput District of Madras, lying about fourteen miles north-west of CONJEEVERAM town, in 12° 51' N. and 79° 35' E. Population 1,117 (1901). Near here occurred the defeat of Colonel Baillie's force by Haidar Ali, one of the most severe reverses which ever befell the British arms in south India. Sir Hector Munro, the Madras Commander-in-Chief, had directed Baillie, who had 2,800 men with him, to meet him at Conjeeveram. Haidar received intelligence of the plan and set out to intercept the force. Baillie thereupon sent to Sir Hector for re-inforcements and a detachment was despatched to him which increased his strength to 3,700 men. Baillie, however, delayed too long in setting out, and was caught by the whole of Haidar's army in a defile studded by palmyra trees. Here his force was subjected to a cross-fire from some 50 guns. Baillie and most of his officers were soon wounded and eventually the blowing up of two tumbrils of gunpowder in the middle of the square in which the troops were formed started a panic. The English, however, formed the small remnant of their men in a square on a little eminence and repulsed thirteen attacks of the enemy during another hour and a half. Baillie then surrendered, but Haidar's men, through some misunderstanding, fired into them none the less and killed almost all of those who had still survived. In the Daryā Daulat, Haidar's garden-house on the island of Seringapatam, is a fresco depicting this defeat in quaint native fashion,

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CHINGLE- an exploding tumbril being given a prominent place in the
PUT composition. This has been renovated and is in excellent
DISTRICT. preservation.

Poonamallee.—Town and cantonment situated on the western trunk road, 13 miles due west of Madras and five miles north of St. Thomas' Mount, in $13^{\circ} 31' N.$ and $80^{\circ} 7' E.$, in the Saidapet taluk of the Chingleput District of Madras. It contains a population of 15,323 persons (1901), and is the head-quarters of a deputy tahsildar and a District Munsiff. The place was formerly a convalescent depôt for the troops of the Madras Command, a purpose for which it was well-suited by its good drainage and general salubrity. It still contains barracks calculated to accommodate 500 men but is now only a sanitarium for convalescent European troops. Four hundred yards to the east of the cantonment, which is about half a mile square, is the old fort of Poonamallee, now occupied principally by warehouses, store-rooms and the hospital. It is a Muhammadan work, 175 yards long and 142 broad, and is surrounded by a rampart 18 feet high. It was of considerable service in holding the country, both towards Madras and Conjeeveram, during the wars of the Carnatic.

Pulicat.—Town in the Ponneri taluk, Chingleput District, Madras, standing on the southern extremity of an island which separates the sea from the PULICAT LAKE, 25 miles north of Madras, in $13^{\circ} 25' N.$ and $80^{\circ} 19' E.$ Population 5,448 (1901). Pulicat was the site of the earliest settlement of the Dutch on the mainland of India. In 1609 they built a fort here and called it Geldria, and in 1619 the English obtained from the chiefs a permission to share in the pepper trade of Java. Later, it was the chief Dutch settlement on the Coromandel Coast. It was taken by the British in 1781; restored in 1785 to Holland under the treaty of 1784; and surrendered by them in 1795. In 1818 Pulicat was handed over to the Dutch by the East India Company under the Convention of the Allied Powers in 1814; in 1825 it was finally ceded to Great Britain by the treaty of March 1824. The only relics of Dutch authority now left are the curious and elaborate tombs in their old cemetery, which are maintained at Government expense. The town was formerly a centre of trade to Penang and the Straits, but this has now ceased. It was also once a sanitarium much frequented by residents of Madras, but the prevalence of

malarial fever put it out of favour. The place is now comparatively deserted and is inhabited chiefly by the Muhammadan trading community of the Labbais. The only trade now carried on is managed by these people. It consists chiefly of the export of woven cloth, dried fish and prawns. The Hindus of the town are for the most part very poor and earn their livelihood by fishing and doing daily labour. The old Roman Catholic church here attracts large crowds from Madras and elsewhere to one of its annual feasts.

Sadras.—A village situated in 12° 31' N. and 80° 10' E. on the coast of the taluk and District of Chingleput in the Madras Presidency, about 35 miles south of Madras town and connected with it by the BUCKINGHAM CANAL. Population 1,564 (1901). It became a trading settlement of the Dutch in 1647 and was long famous for the fine muslin produced by its looms. The Dutch erected, close to the shore, a brick fort of considerable extent and pretensions to strength, of which the ruins still stand. There are also the remains of the houses of the officials, one of which has long been in use as a halting-place for European travellers. The old Dutch cemetery within the fort, which contains curious and elaborate tombs, is maintained in order by Government. A Dutch church stands on the esplanade opposite the fort. A few weavers still live in the place but the cunning which produced the once famous fabrics is forgotten. The rest of the inhabitants are cultivators, and the place is now only a sleepy little village. Sadras was taken by the British in 1795, but was given back to the Dutch in 1818. It finally returned to British hands in 1825 along with the rest of the Dutch Settlements in India.

Saidapet Town.—Head-quarters of the taluk of the same name and of the Chingleput District of Madras, lying in 13° 21' N. and 80° 13' E., five miles from Fort St. George. Population 14,254 (1901). The District head-quarters have been located there since 1859. The Collector's office and treasury are in a building called Home's Gardens, which has of late been much enlarged and improved and also contains the offices of a Deputy Collector and the tahsildār and the stationary sub-magistrate. The place is practically a suburb of Madras and as the South Indian line connects it with the business quarters of that city it is the residence of many officials and others and a growing town. Weaving and dyeing are its chief industries. The handsome

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Marmalong bridge across the Adyar river, built in the early days of Madras by an Armenian merchant by name Petrus Uscan, connects the place with SAINT THOMAS' MOUNT. This has an endowment in Government paper the interest on which is utilized for its repair and for the upkeep of the steps leading up Saint Thomas' Mount.

The most notable institutions in Saidapet are the Agricultural College and the Teachers' College. The latter is under the management of a European principal, aided by a staff of assistants, and is designed to instruct persons who are taking up teaching as a profession in the theory and practice of that art. A high school is attached to give the students an opportunity of practising and there is also a well-equipped gymnasium.

The Agricultural College originated as a model farm established in 1865 during the Governorship of Sir William Denison. In this many important agricultural experiments were made, some of which produced encouraging results indicating the general directions in which improvements might be effected in the agriculture of the country. Attention was given to sub-soil drainage, improved tillage, the restoration of exhausted soils, the proper utilization of irrigation water, the fertilization of arable soils by the use of lime, saltpetre, oil-cake, poudrette and other manures available in southern India but little used by the ryots, the introduction of new crops suited to the climate and adapted for cultivation under an improving agricultural practice, the production of live fences to afford protection from cattle, shelter from wind, and fuel, the introduction of water-lifts, barn machines, carts, ploughs, cultivators, cattle-houses, reaping-knives, etc., of improved construction, and the raising of the character of the live-stock of the country by careful feeding and breeding and by acclimatising new breeds. In 1876, a school of agriculture was opened to extend the practical utility of the experiments. The institution was later raised to the status of a college and a handsome building and museum have been erected. A chemical laboratory is attached to it and a veterinary hospital has been opened. The College is intended to afford instruction to persons who desire to become acquainted with the theory and practice of agriculture, and is under the charge of a principal, a vice-principal and five assistants. Experimental work at the farm has now been given up, the crop-

ping done being no more than is necessary for educational purposes, but other experimental farms have been established in more suitable localities. The College itself is shortly to be transferred to a more suitable site at Coimbatore.

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Saint Thomas' Mount.—Town and cantonment in Saidapet tāluk, Chingleput District, Madras, situated some eight miles south of Madras City in 13° N. and 80° 12' E. Population 15,571 (1901). It is known to the natives as Parangimalai, or Europeans' Hill. The Mount after which the place is named is composed of greenstone and syenite and is ascended by a flight of some 200 masonry steps, the work of the Portuguese. On its summit, which is 220 feet above sea-level, is a curious old Portuguese church dedicated to the Expectation of the Blessed Virgin. It was built by the Portuguese in 1547 over the spot where was found the celebrated cross which was attributed to the legendary visit of St. Thomas the Apostle to this part of India. The tradition¹ states that after preaching in Malabar and other places, St. Thomas came to Mylapore, a suburb of Madras; that the Brāhmans there stirred up a tumult against him and that on the 21st December 68 A.D. he was stoned by the crowd and finally thrust through with a spear near the Mount. Lucena gives the following account of the finding of the Cross:—"It was met with on digging for the foundations of a hermitage amid the ruins which marked the spot of the martyrdom of the Apostle St. Thomas. On the face of the slab was a cross in relief, with a bird like a dove over it, with its wings expanded as the Holy Ghost is usually represented when descending on our Lord at His baptism, or on our Lady at her Annunciation. This cross was erected over the altar at the chapel which was built on the new sanctuary." Dr. Bunnell (*Indian Antiquary*, 1874, p. 313) says: "This account is no doubt accurate, for the Portuguese on first visiting the mount found the Christian Church in ruins, and occupied by a native *fakīr*. The description of the slab is also accurate. It does not appear what cause had destroyed the Christian community here, but it probably was owing to the political disturbances attending the war between the Muhammadans of the

¹ Discussions of the credibility of this tradition will be found in the *Indian Antiquary*, xxxii, in the *Journal of the Royal Asiatic Society* for April 1905 and in *India and the Apostle Thomas* (Madras, 1905) by the Rev. A. E. Medlycott, Bishop of Tricomia.

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north and the Hindu kingdom of Vijayanagar." Referring to an Italian account (in the 17th century) of the cross and the Mount festival, Dr. Burnell continues: "The cross is built into the wall behind the altar in a church on the Great Mount, which is served by a native priest under the Goa jurisdiction. An annual festival is held here, which brings a large assemblage of native Christians to the spot, and causes an amount of disorder which the European Catholic clergy of Madras have in vain tried to put down." He considered that the date of the cross tablet and its Pehlevi inscription was probably about the 8th century A.D.

On the plain on the eastern side of the Mount lies the military cantonment bearing the same name. The garrison now consists of two batteries of Field Artillery and one regiment of native infantry. The cantonment is a pretty place and well kept. In the centre is an open grassy maidān and round this cluster the various bungalows and other buildings, conspicuous among which is the handsome mess-house of the Artillery. The church, which stands at the southern end of the parade-ground, is one of the best edifices of its kind in the Province.

Saint Thomas' Mount figured in British history long before it was made a cantonment. The battle of the Mount, fought on the 7th February 1759, was one of the fiercest struggles of the Franco-British wars in India. It is thus described in the *Chingleput Manual*: "Colonel Calliaud had been summoned from the south to assist in raising the siege of Madras. He took post at the Mount, with his right at a deserted little temple at the north-east of the present parade-ground, and his left supported by a house called Carvalho's Garden, where he posted four pieces of cannon. His troops included the contingent brought by the Company's partisan Muhammad Yūsuf, and consisted of 2,200 horse, 2,500 foot, and 6 cannon. Of these, however, only 1,500 natives, 80 Europeans and 12 artillerymen were possessed of the slightest discipline. Lally's forces aggregated 2,600, half of whom were Europeans, and all disciplined. He had, besides, 8 guns, possessing a great superiority in weight of metal. The fight lasted from early morning till 5 P.M., when the enemy, to Colonel Calliaud's intense relief, retreated. The latter had ammunition sufficient to have lasted for about a couple of minutes more." On the 20th March 1769, Haider Ali, who had marched within five miles of Madras, met here Mr.

Dupré, the Senior Member of Council, and here the inglorious treaty of the 2nd April was signed. In 1774, at the suggestion of Col. James, the Mount was established as the headquarters of the artillery. "The garrison of the Mount formed the major part of the force (under Sir Hector Munro) that ought to have saved Baillie in 1780. During its absence, only five companies of Sepoys and 4 guns had been left for the protection of the Mount, and a temporary earthwork was raised to strengthen the place against attack. This has long been levelled, but a slight depression crossing the plain midway between Pallavaram and the Mount indicates the position of what went by the name of the Marāthā Ditch."

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Sembiam.—Town in the Saidapet tāluk of Chingleput District, Madras, situated in $13^{\circ} 7' N.$ and $80^{\circ} 16' E.$ Population 17,567 (1901). It lies near the Perambūr railway station of the Madras Railway and just beyond the limits of the Madras municipality, and within it are the Perambūr railway workshops, which employ 4,500 hands daily. It is consequently almost a suburb of Madras and, being a healthy locality with good water, is growing rapidly in population. There is a considerable Eurasian community in the place. It contains ten small paper-making establishments which give employment to about a dozen hands apiece.

Seven Pagodas.—Village of 1,229 inhabitants (1901) in the Chingleput tāluk and District, Madras Presidency, situated 35 miles south of Madras on the Buckingham Canal, between it and the sea, in $12^{\circ} 37' N.$ and $80^{\circ} 12' E.$ The vernacular name is variously spelt as *Mahābalipur*, *Mahāvellipur*, *Māvallipur*, *Māmalaipur*, *Māmallapur* and *Mallapur*. The disputations regarding its form have been freely discussed in Major M. W. Carr's book regarding it and Mr. Crole's *Manual* of the District.

The village itself is insignificant but near it are some of the most interesting and, to archæologists, the most important architectural remains in southern India. These antiquities may be divided into three groups; the five so-called *raths* (monolithic temples) to the south of the village, belonging perhaps to the latest Buddhist period; the cave temples, monolithic figures, carvings, and sculptures, west of the village, perhaps of the 6th or 7th century A.D., which contain some marvellous reliefs, ranking with those of Ellora and Elephanta;

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the more modern temples of Vishnu and Siva, the latter being washed by the sea. To these last two, with five other pagodas, buried (according to tradition) by the sea, the place owes its English name. Who were the authors of the older of these constructions is a question on which there is a considerable literature, but which cannot be considered to be definitely set at rest. Mr. Sewell, after examining the question in its different aspects, concludes by observing that exactly at the period when, according to the style of architecture, as judged by the best authorities, we find a northern race temporarily residing at or near this place, sculpturing these wonderful relics and suddenly departing, leaving them unfinished, inscriptions give us the Chālukyas from the north conquering the Pallava dynasty of Kānchi, temporarily residing there and then driven out of the country, after a struggle, permanently and for ever. Everything, therefore, would seem to point to the Chālukyas of Kalyānapura as being the sculptors of the Seven Pagodas. Mr. Crole describes the antiquities as follows:—

‘The best, and by far the most important, of its class is the pastoral group in the Krishna *mantapam*, as it is called. The fact is, that it represents Indra,* the god of the sky, supporting the clouds * with his left hand, to protect the cattle of Bala from the fury of the Maruts or tempest demons. Near him, the cattle are being tended and milked. To the right, a young bull is seen, with head slightly turned and fore-foot extended, as if suddenly startled. This is one of the most spirited and lifelike pieces of sculpture to be seen anywhere.

‘A little to the north of this is the great bas-relief which goes by the name of “Arjuna’s Penance.” It covers a mass of rock 96 feet in length and 43 feet in height, and is described by Fergusson as “the most remarkable thing of its class in India.” “Now,” says he, “that it is known to be wholly devoted to serpent-worship, it acquires an interest it had not before, and opens a new chapter in Indian mythology. There seems nothing to enable us to fix its age with absolute certainty; it can hardly, however, be doubted that it is anterior to the 10th century, and may be a couple of centuries earlier.”

‘Near the stone choultry by the side of the road, and a little to the north of the rock last described, stands a well-executed group lately exhumed, representing a couple of monkeys catch-

* More correctly Krishna supporting a hill; see GIRI RAJ.

ing fleas on each other after the manner of their kind, while a young one is extracting nourishment from the female.

‘Near this point, a spectator, looking southwards, may see, formed by the ridges on which the caves are cut, the recumbent figure of a man with his hands in the attitude of prayer or meditation. This figure measures at least 1,500 feet long, the partly natural resemblance having been assisted by the rolling away of rocks and boulders. On the spot, this is called the “Giant Rājā Bali,” but it is no doubt the work of Jains.

‘The whole of this ridge is pitted with caves and temples. There are 14 or 15 Rishi caves in it, and much carving and figuring of a later period. These are distinguished by the marked transition from the representations of scenes of peace to scenes of battle, treading down of opposition and destruction, the too truthful emblems of the dark centuries of religious strife which preceded and followed the final expulsion of the Buddhists. Their age is not more than 600 or 700 years; and the art is poor, and shows as great a decadence in matter as in religion. The representations are too often gross and disgusting, and the carving stiff and unnatural—entirely wanting in ease and grace and truth to nature.

‘Behind this ridge, and near the canal, are two more of the monolithic *raths*, and one similar in form, but built of large blocks of stone.

‘The last period is represented by the Shore Temple, the Varāhaswāmi Temple in the village, and by some of the remains in a hamlet called Sālewankuppen, 2 miles to the northward. In the two former there is little distinguishable in construction and general plan from similar buildings to be found everywhere in the south.

‘Looking at the place as a whole, its architecture, its sculptures, and its inscriptions, we would seem to possess here a complete religious history of the south carved in the imperishable rock; and, with all deference to the high authority of Mr. Fergusson (who, however, seems to have confined his study almost entirely to the monoliths), it is difficult to believe that the remains enumerated do not form a chapter in the story anterior to his earliest one, which he dates about the 6th century A.D. It would seem to be much more in accordance with the evidence to accept these remains as the records left by the Buddhist faith, and to assign to them an age nearly coeval with

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the zenith of Buddhist architecture and sculpture, or a period commencing a couple of centuries or so before the Christian era.'

Mr. Fergusson discusses their architectural aspects as follows:—

'The oldest and most interesting group of monuments are the so-called five *raths*, or monolithic temples, standing on the sea-shore. One of these, that with the apsidal termination, stands a little detached from the rest. The other four stand in a line north and south, and look as if they had been carved out of a single stone or rock, which originally, if that were so, must have been between 35 feet and 40 feet high at its southern end, sinking to half that height at its northern extremity, and its width diminishing in a like proportion.

'The first on the north is a mere *pansala* or cell, 11 feet square externally, and 16 feet high. It is the only one, too, that seems finished or nearly so, but it has no throne or image internally, from which we might guess its destination.

'The next is a small copy of the last to the southward, and measures 11 feet by 16 feet in plan, and 20 feet in height. The third is very remarkable; it is an oblong building with a curvilinear-shaped roof with a straight ridge. Its dimensions are 42 feet long, 25 feet wide, and 25 feet high. Externally it seems to have been completely carved, but internally only partially excavated, the works being apparently stopped by an accident. It is cracked completely through, so that daylight can be seen through it, and several masses of the rock have fallen to the ground. This has been ascribed to an earthquake and other causes. My impression is that the explanation is not far to seek, but arose from unskilfulness on the part of workmen employed in a first attempt. Having completed the exterior, they set to work to excavate the interior, so as to make it resemble a structural building of the same class, leaving only such pillars and supports as were sufficient to support a wooden roof of the ordinary construction. In this instance, it was a mass of solid granite which, had the excavation been completed, would certainly have crushed the lower story to powder. As it was, the builders seem to have taken the hint of the crack, and stopped the further progress of the works.

'The last, however, is the most interesting of the series. Its dimensions are 27 feet by 25 feet in plan, 34 feet in height.

Its upper part is entirely finished with its sculptures, the lower merely blocked out. It may be that, frightened by the crack in the last-named *rath*, or from some other cause, they desisted, and it still remains in an unfinished state.

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‘The materials for fixing the age of this *rath* are, first, the palæographic form of the characters used in the numerous inscriptions with which it is covered. Comparing these with Prinsep’s alphabets, allowing for difference of locality, they seem certainly to be anterior to the 7th century. The language, too, is Sanskrit, while all the Chola inscriptions of the 10th and subsequent centuries are in Tamil, and in very much more modern characters. Another proof of antiquity is the character of the sculpture. We have on this *rath* most of the Hindu Pantheon, such as Brahmā and Vishnu; Siva, too, appears in most of his characters, but all in forms more subdued than to be found elsewhere. The one extravagance is that the gods have generally four arms—never more—to distinguish them from mortals; but none of the combinations or extravagances we find in the caves here, as at Ellora or Elephanta. It is the soberest and most reasonable version of the Hindu Pantheon yet discovered, and consequently one of the most interesting, as well, probably, as the earliest.

‘None of the inscriptions on the *raths* have dates; but from the mention of the Pallavas in connection with this place, I see no reason for doubting the inference drawn by Sir Walter Elliot from their inscriptions —“that the excavations could not well have been made later than the 6th century.” Add to all this, that these *raths* are certainly very like Buddhist buildings, and it seems hardly to admit of doubt that we have here petrifications of the last forms of Buddhist architecture, and the first forms of that of the Dravidian.

‘The want of interiors in these *raths* makes it sometimes difficult to make this as clear as it might be. We cannot, for instance, tell whether the apsidal *rath* was meant to reproduce a Chaitya hall, or *vihārā*. From its being in several storeys, I would infer the latter; but the whole is so conventionalized by transplantation to the south, and by the different uses to which they are applied for the purposes of a different religion, that we must not stretch analogies too far.

‘There is one other *rath*, at some distance from the others, called “Arjuna’s Rath,” which, strange to say, is finished, or

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nearly so, and gives a fair idea of the form their oblong temples took before we have any structural buildings of the class. This temple, though entered in the side, was never intended to be pierced through, but always to contain a cell. The large oblong *rath*, on the contrary, was intended to be open all round; and whether, consequently, we should consider it as a choultry or a *gopura* is not quite clear. One thing, at all events, seems certain—and it is what interests us most here—that the square *raths* are copies of Buddhist *vihārās*, and are the originals from which all the *vimānas* in Southern India were copied, and continued to be copied nearly unchanged to a very late period. . . . On the other hand, the oblong *raths* were halls or porticoes with the Buddhists, and became the *gopuras* or gateways which are frequently, indeed generally, more important parts of Dravidian temples than the *vimānas* themselves. They, too, like the *vimānas*, retain their original features very little changed to the present day.

‘The other antiquities at Mahābalipur, though very interesting in themselves, are not nearly so important as the *raths* just described. The caves are generally small, and fail architecturally, from the feebleness and tenuity of their supports. The southern cave-diggers had evidently not been grounded in the art like their northern compeers, the Buddhists. The long experience of the latter in the art taught them that ponderous masses were not only necessary to support their roofs, but for architectural effect; and neither they, nor the Hindus who succeeded them in the north, ever hesitated to use pillars of two or three diameters in height, or to crowd them together to any required extent. In the south, on the contrary, the cave-diggers tried to copy literally the structural pillar used to support wooden roofs. Hence, I believe, the accident to the long *rath*; and hence certainly the poor and modern look of all the southern caves, which has hitherto proved such a stumbling-block to all who have tried to guess their age. Their sculpture is better, and some of their best designs rank with those of Ellora and Elephanta, with which they were, in all probability, contemporary. Now, however, that we know that the sculptures in Cave No. 3 at Badāmi were executed in the 6th century (579 A.D.), we are enabled to approximate to the date of those in the Mahābalipur caves with very tolerable certainty. The Badāmi sculptures are so

similar in style with the best examples there, that they cannot be far distant in date; and if placed in the following century it will not, probably, be far from the truth.'

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A number of coins of all ages have been found at the Seven Pagodas, among others Roman, Chinese and Persian. A Roman coin, damaged but believed to be of Theodosius (A.D. 393), formed part of Colonel Mackenzie's collection. Others have been found on the sand-hills along the shore south of Madras.

Sriperumbūdūr.—Town in the Conjeeveram taluk, Chingleput District, Madras, situated in 12° 59' N. and 79° 57' E. on the western trunk road 25 miles west-south-west of Madras. Population 5,481 (1901). It is important as the birth-place, about 1016 A.D., of Sri Rāmānujāchārya, the great religious reformer of the Vaishnava sect. A shrine to him in the town attracts an immense number of pilgrims from the whole of India. It is executed in the beautiful style of the early Vijayanagar architecture and the sculpture in it is excellent. Rāmānuja, who was a Brāhman by birth, was noted even as a boy for his studious habits and meditative reserve. When a youth, he went to Conjeeveram to study under Yādava Prakāsa, the great teacher of the Advaita system of thought, which was adopted mostly by the devotees of Śiva. But he grew to differ from his master and attaching himself to the then rising Vaishnavite creed wrote commentaries embodying the principles of what is known as the Visishta-Advaita philosophy, or qualified non-dualism. In contradistinction to the professors of the Advaita doctrine he held that the divine soul and the human soul are not absolutely one, but are closely connected. According to him, everlasting happiness was not to be obtained by knowledge alone, however profound; a devout observance of public and private worship was likewise essential. His culture and personal charm drew around him a host of disciples and in his lifetime he founded no less than 700 colleges and sought to secure the permanence of his system by establishing 89 hereditary priestships. Several of these still exist. While returning to Srirangam from a tour he was confronted by an edict of the Chola king requiring the signature of all Brāhmanas in his dominions to a profession of the Saivite religion. Rāmānuja resisted and fled and found an asylum with Vittala Deva, the Jain king of Mysore, whom he converted. After 12 years in

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Mysore, the death of the Chola king enabled Rāmānuja to return to Srīrangam, where he died about 1132.

Tirukkalkkunram (otherwise called Pakshitirtham).—A town in the Chingleput taluk and District (Madras) standing on the road from Chingleput to Sadras, about half way between the sea coast and the former town, in $12^{\circ} 36'$ N. and $80^{\circ} 3'$ E. Population 5,728 (1901). Near it is a ridge terminating in a peaked hill some 500 feet above the sea-level, on which stands a temple dedicated to Siva. This is an important place of pilgrimage. The name Tirukkalkkunram means hill of the sacred kites and was doubtless originally given to this ridge and its shrine, whence it was afterwards applied to the village below them. Every day two birds of the kite species come to the mountain and are fed by a pandāram or priest. They are declared to have originally come from Benares. A plunge in the tank called the Pakshitirtham, or bathing place of the birds, in the village is believed to cure all kinds of diseases, including even leprosy. The town is at present entirely inhabited by persons connected with the temple or by shop-keepers who cater for the wants of the pilgrims who flock to it from all parts all the year round, and particularly during the various festivals. Charitable gentlemen have constructed rest-houses in it for the benefit of these devotees.

Tiruvallūr Town.—The head-quarters of the taluk of the same name in the Chingleput District of Madras, situated in $13^{\circ} 8'$ N. and $79^{\circ} 55'$ E. Population 9,092 (1901). The station on the Madras Railway of the same name is three miles from the town. The importance of the place is due to its being the head-quarters of the Ahobilam *math*, or religious house, the head of which is the high priest of the Vadagalai section of Vaishnava Hindus. The town contains four temples, one dedicated to Siva and the other three to Vishnu. The Siva temple is enclosed in a court 940 feet by 701 feet in the outer walls of which are five *gopuras* or towers of the usual Dravidian pattern. It is evidently much older than the other buildings in this court, which include the usual many-pillared hall (unfinished) and several large porches. As a work of architecture it possesses the faults common to many Dravidian temples. Fergusson says that "the gateways, irregularly spaced in a great blank wall lose half their dignity from their positions; and the bathos of their decreasing in size and elaboration as

they approach the sanctuary is a mistake which nothing can redeem." The place where the temple is situated is declared by local tradition to have been a forest called Vikshāranya. In this the five Pāndavas once experienced great want of water and almost despairing of finding any, they at last came to the spot where the shrine is now situated and here they saw an emblem of Siva. They prayed to the god and by his favour a small spring welled up in front of the emblem, from which the Pāndavas quenched their thirst. The Vishnu temple, dedicated to Sri Virarāghavaswāmi, attracts large crowds on the new-moon days. On these occasions a plunge in the waters of the holy tank there is supposed to wipe away all sin. Thousands of pounds of molasses are poured by the pilgrims into this tank in fulfilment of their vows. The temple is under the management of the Ahobilam *math*.

Truvottiyūr.—Town in the Saidapet taluk of the Chingleput District of Madras, situated six miles north of Fort St. George in $13^{\circ} 10' N.$ and $80^{\circ} 18' E.$ Its population was 15,919 at the census of 1901 but this figure was greatly enhanced by the fact that a festival was proceeding there at the time of the enumeration. The place is not normally so populous. In it is an ancient Siva temple containing inscriptions inside and outside its shrine in Grantha characters. It attracts large crowds of people from Madras and other places every Friday and during the Brahmotsavam feast in the month of Māsi (February). The place has a bad name for malaria.

Uttaramerūr.—Town in the Madurāntakam taluk, Chingleput District, Madras, situated in $12^{\circ} 37' N.$ and $79^{\circ} 46' E.$ Population 10,432 (1901). It is an agglomeration of several villages. Tradition says that there was formerly a very ancient town on this site and remains of the foundations of the buildings of this are occasionally exhumed to this day. It is the headquarters of a deputy tahsildār and contains a big tank fed from the Cheyyār. The weekly market, controlled by the local board, is an important affair.

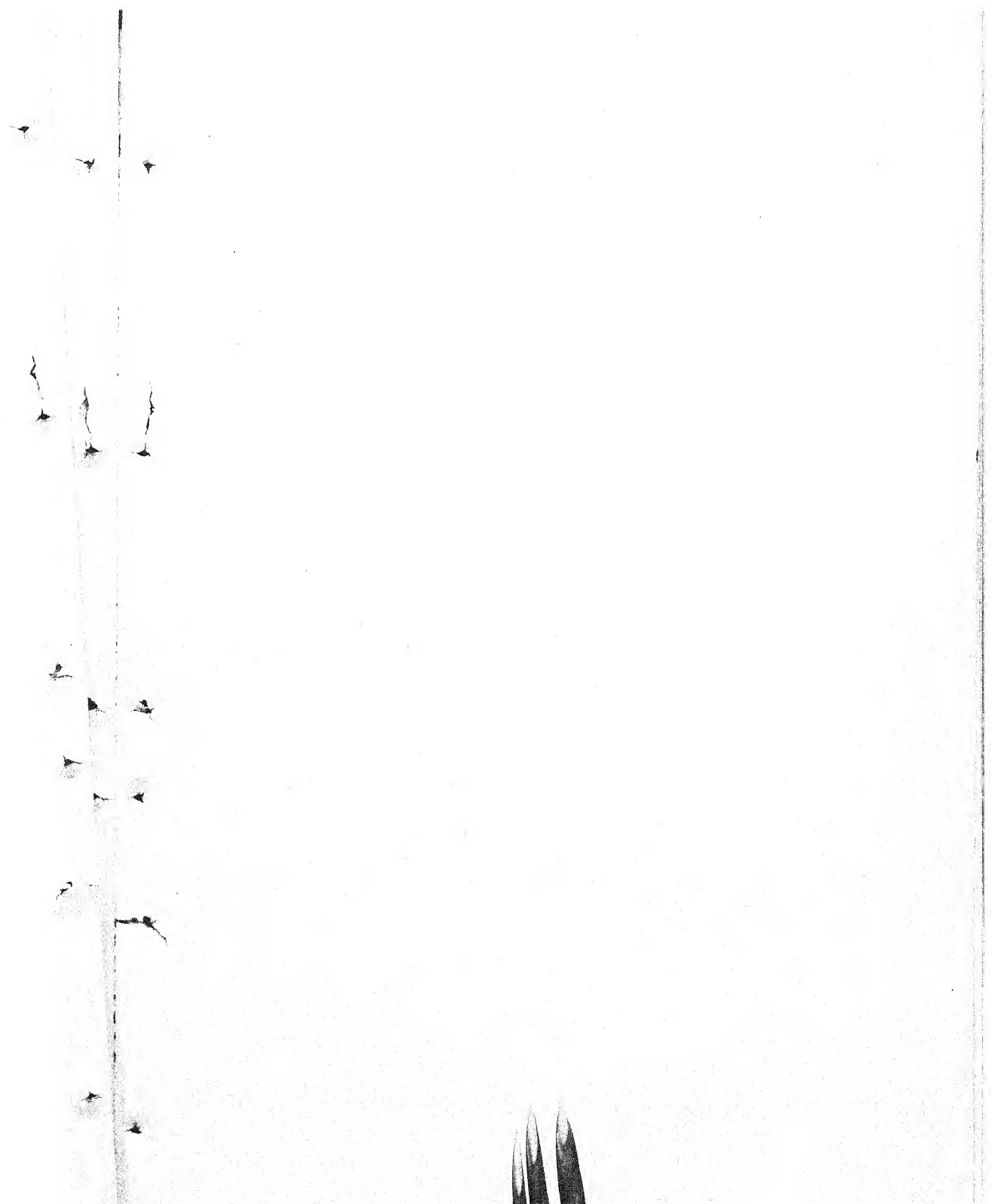
Wālājābād. (Walājāhbād).—Town situated in $12^{\circ} 47' N.$ and $79^{\circ} 50' E.$, in the Conjeeveram taluk of the Chingleput District, Madras, on the left bank of the PALAR and on the branch line between Chingleput and Conjeeveram. Also called Dandei Sivaram. Its inhabitants number 4,172 (1901). The place is called after Muhammad Ali, Nawāb of ARCOT, who

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took the title Walajah in 1776. It became a military cantonment about 1786, and for many years afterwards a European regiment, a regiment of native cavalry, and two or three regiments of native infantry were stationed there. The lines were placed along the sides of a gravelly plateau which rises abruptly about 500 yards from the bank of the river, and the native town lay in the low ground between the two. The centre of the plateau supplied a spacious parade ground, while the undulating plain behind, stretching away northwards towards Tenneri, afforded ample room for more extended manœuvres. On this plain a race-course was laid out, and the ruins of the grand stand still survive. Two of the officers' houses, a few gate-posts, and the cemetery are all the vestiges that now remain of a once bustling cantonment. The place was found to be very unhealthy, and the mortality among the troops became so great that the town was called the grave of Europeans. The cantonment was therefore abandoned, but continued up to 1859 or 1860 to be the head-quarters of a native veteran battalion, the drummer-boy establishment, and details of native sick.

The unhealthy reputation of the place is still maintained. Outbreaks of cholera are frequent. The houses are tumble-down and squalid. The local boards have made vigorous efforts to improve matters by uprooting the dense growth of prickly-pear round the town and raising and draining the streets.

Owing to its position, Walajabad has long been an emporium for the trade of the surrounding country. Labbai merchants monopolize most of this. Weaving is also carried on, but not with such success as formerly, when Walajabad chintz was a commodity much in request. Oil, grain, and other agricultural products are now the staple articles of commerce. The Free Church of Scotland maintains two flourishing schools and a hospital in the town.



NORTH ARCOT DISTRICT.

Arcot, North, District.—An inland District on the eastern side of Madras, with an area of 7,383 square miles, lying between $12^{\circ} 20'$ and $13^{\circ} 55'$ N. and $78^{\circ} 14'$ and $79^{\circ} 59'$ E. It gets its name from the fact that it originally comprised only that portion of the former Musalmān *sūbah* of Arcot which lies north of the PALAR river. The part to the south was subsequently added from the southern division of the *sūbah*. Arcot is supposed to be a corruption of the Tamil *Aru-kādu* (six forests), tradition stating that the country was once occupied by this number of forests in which dwelt an equal number of rishis.

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Bounda-
ries, con-
figuration
and hill
and river
systems.

On the north, the District is separated from Cuddapah by a portion of the Eastern Ghāts which is locally known as the Tirupati hills from the town of that name which lies at their foot. The range is broken by a long valley running northwards into the Cuddapah District. Advantage has been taken of this gap by the north-west line of the Madras Railway, which passes up it through the Ghāts on its way to Bombay. On the west the District runs up to the Mysore plateau. In the south-west, separated from the Eastern Ghāts by the fertile valley of AMBUR, is the detached group of the JAVADI HILLS, well-wooded and containing much game, which divides the District from Salem and part of South Arcot. Along the southern and eastern borders, adjoining South Arcot and Chingleput, the country is flat and uninteresting. In the north-east, the Nagari hills are conspicuous and picturesque with high precipitous cliffs, the most important peak being Nagari Nose (2,824 ft.) in Kārvetnagar zamīndāri overlooking the north-west line of the Madras Railway. This hill is visible from the sea in fine weather and is a recognised landmark. From all the ranges numerous small boulder-covered spurs branch off towards the centre of the District, and combine to render it one of the most varied and charming areas in the Presidency.

None of the hills is particularly lofty, the general elevation of the Eastern Ghāts and the Javādis being about 2,500 and 3,000 feet respectively. The highest peak is Avalapalle Drug (3,829 feet) in Punganūru zamīndāri. Karnaticgarh (3,124 feet) in Polūr taluk and Kailāsagarh (2,743 feet), in Vellore, both on the Javādis, are other peaks of importance. Each has a small bungalow on its summit and forms a pleasant retreat in the hot weather. Except the Javādis, the hills are generally uninhabited.

The chief rivers of the District are the PALAR and its tributaries the Cheyyār and POINI. Except for a few days in the year, the beds of these are dry, sandy wastes. The Cheyyār rises in the

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Javādis. It first flows southwards into the South Arcot District then bending to the east and north-east, enters the southern taluks of North Arcot, flows eastward across them and finally falls into the Pālār near Wālājābād in Chingleput District. There are numerous other smaller rivers and streams but none of them is worthy of special note.

Botany. The flora of the District presents no points of particular interest. The growth on the hills is of the drier deciduous type usual to the lower spurs of the Eastern Ghāts and in the low country are the ordinary Coromandel plants. The chief trees are referred to under Forests below.

Geology. Geologically the greater part of the District consists of archæan rocks, among which there are probably a few representatives of the older micaceous, hornblendic and talcose gneisses and of the younger thin-bedded quartz-magnetite schists. But, for the most part, the archæans are represented by the more uniform plutonic gneissose granite of the Bāramahāl type. This rock builds the edges and rugged scarps of the Mysore plateau, as well as many detached spurs, droogs and tors. They are all cut through by granite veins, quartz veins, and basic trap dykes, the last in great profusion.

On the north-east and east the Purāna group of ancient un-metamorphosed sedimentaries is represented by the high scarped Nagari group of hills and the southern end of the Velikonda and Tirupati hills, which display grey and buff-coloured Nagari quartzites and conglomerates of the second lowest member of the Cuddapah series, in detached outliers from the great Cuddapah-Kurnool mass.

Upper Gondwānas (Rājmahāls) are found in three adjacent areas on the eastern edge of the District. They consist of reddish sandstones and conglomerates and clays and shales with loose conglomerates containing imperfect plant remains. They are many hundred feet thick and dip at moderate angles to the east, disappearing under the laterite and alluvium at the eastern edge of the District.

Fauna.

The larger game includes the bison (*Gavæus gaurus*), which is found in small numbers on the Javādis, and an occasional tiger. Leopards are common throughout the rocky hills. The black bear, hyænas, sāmbhar, spotted deer, jungle sheep or barking deer, black buck and wild pig are also found in different parts of the District. Small game of the usual kinds is plentiful and peafowl and jungle-fowl occur in the forests.

Climate
and tem-
perature.

The climate is on the whole healthy, being very dry. The Javādis, however, are very feverish at certain periods of the year. The low country is hot, but never unbearably so, while the elevated plateau on the west shares the cooler temperatures of the adjoining Mysore plateau. Temperature is not officially recorded at any station.

The average rainfall of the whole District, for 30 years ending with 1899, is 37 inches. But owing to the many ranges and hills, which sometimes collect and sometimes divert the rain-bearing clouds, it varies greatly in different parts. The driest tract is that above the Ghāts, where the fall is only 31 inches. In the neighbouring Chandragiri tāluk it is 33 inches. In the centre of the District, however, the fall increases to 39 and on the east to 40 inches. Speaking generally, the south-west monsoon is more copious than the north-east on the plateau and in the centre of the District, and the north-east than the south-west in the east, where the country is nearer to the Bay of Bengal and less shut out from currents driving inland.

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Rainfall.

Cyclonic storms are not uncommon and usually occur in May or October at the change of the monsoon. They do not ordinarily cause much damage. The most destructive occurred on May 2nd, 1872, when Vellore chiefly suffered. Extensive floods took place in November 1903 when, owing to the breaching of some large tanks in Mysore within its upper catchment basin, the Pālār overflowed its banks and did a great deal of damage. Ambūr suffered severely, as did also several villages on either bank of the river both in Vellore and Gudiyāttam tāluks. The anicut (irrigation dam) across it near ARCOT was very badly breached, and 4½ lakhs have been spent in repairing it.

Historically, from the earliest times of which anything is known down to the close of the ninth century A.D., the District formed part of the territory of the Pallavas, whose capital was at CONJEEVERAM, in the Chingleput District. During the succeeding centuries, it passed successively under the sway of the CHOLAS of Uraiyūr, the Rāshtrakūta dynasty of Mālkhed, the great Chola king Rājārāja Deva of TANJORE and the Hindu rulers of VIJAYANAGAR. These last were overthrown by the Musalmāns of the Deccan in 1565 at the battle of Tālikotā and the country fell into the power of the Sultāns of Bijāpur and Golconda. The last nominal kings of the line lived for some years at CHANDRAGIRI. In 1687, the emperor Aurangzeb overthrew these and sent his general Zulfikār Khān to annex the south of India to the Mughal empire, and the District then passed under the Muhammadan Nawābs of the Carnatic, who made Arcot their head-quarters.

History.

In the next hundred years North Arcot was the scene of some of the most decisive battles in the history of southern India. One of the Nawābs, Dost Ali, was defeated and killed in the sanguinary action at the DAMALCHERUVU PASS, in the Chandragiri tāluk, by the Marāthās, who had been called in by the Naiks of TRICHINOPOLY to avenge his annexation of their capital. His two successors were murdered, and in 1749 the Nawāb Anwar-ud-dīn was defeated and killed at Ambūr, 50 miles west of Arcot, by his rival Chanda Sāhib, assisted by the French and Muzaffar Jang.

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During the war that followed on the Coromandel Coast, Arcot, the capital of the then newly proclaimed Nawāb Chanda Sāhib, was captured by Clive on behalf of Muhammad Ali, the son of Anwar-ud-dīn, who was closely besieged by Chanda Sāhib and the French at Trichinopoly. Clive's subsequent brilliant defence of his prize is one of the most memorable events in the history of the Presidency. On the renewal of the war in 1757 Arcot fell to the French. But Sir Eyre Coote signally defeated Lally, the French General, at WANDIWASH in 1759 and soon after retook every fortress that had been lost to the enemy. During his invasion of the Carnatic in 1767, Haidar, the Muhammadan usurper of the Mysore throne, encamped at VELLORE and subsequently laid siege to Ambūr. But on the advance of a relieving army under Col. Smith, he raised the siege and retired to KAVERIPAK. In 1780 he again descended the Ghāts, laid waste Vellore and the surrounding country and besieged Arcot. But hearing that an English relieving army under Sir Hector Munro was on its way thither, he abandoned the attempt. He succeeded, however, in cutting to pieces a detachment under Col. Baillie at Pollilore, near Pālūr in the Wālājāpet tāluk. He afterwards resumed the siege of Arcot, which surrendered, while Ambūr was also taken. He next laid siege to Vellore and Wandiwāsh. The latter was most gallantly defended by Lieut. Flint and was eventually relieved by Sir Eyre Coote, who now commanded in Madras. Coote subsequently proceeded to the relief of Vellore and met the enemy at SHOLINGHUR where they had been drawn up to intercept him. The action was not decisive, but Haidar's loss was very heavy. Coote pushed on to Vellore and successfully provisioned it for three months. The next year (1782) he relieved Wandiwāsh, which had been again besieged, Flint once more offering a stout resistance. The war ended in 1783 and the District was not afterwards the scene of any serious fighting.

In 1781 the Nawāb had assigned the revenues of the Carnatic to the English, and North Arcot thus passed under their management. In 1801 it was, with the rest of the Carnatic, ceded to the British in full sovereignty by the Nawāb Azīm-ud-daula. The Poligār chiefs of the District gave constant trouble at first, but by 1805 all of them had been reduced to submission. Since then, the quiet of the country has only once been disturbed. This was by the mutiny of the sepoys stationed at Vellore in 1806. The outbreak was quelled by troops from Arcot under Col. Gillespie.

Archaeo-
logy.

The District contains numerous kistvaens, the most remarkable group being at BAPANATTAM, a small village in the Palmaner tāluk. These have been conjectured to be the work of the ancestors of the existing caste of the Kurumbas, who according to tradition were once a powerful community. The ruined city at PADAVEDU in the Polūr tāluk is also thought to have been

their capital. Rock sculptures, the work of past generations of Jains, are to be seen in the Arcot taluk at Pancha Pāṇḍavamalai, MAMANDUR and Tiruvattūr, in the Polūr taluk at Tirumala and in Chittoor at Vallimalai. Inscriptions on stone are common, and many of them remain to be deciphered. Of the temples, the most famous Hindu examples are those of KALAHASTI, PADAVEDU, SHOLINGHUR, TIRUMALA, or Upper Tirupati, TIRUTTANI, Tiruchānūr, Tiruvallam, Tiruvelangādū, Vallimalai and Virinchipuram, and the best known Jain shrine is that at Arungulam.

Appended are statistical particulars, for 1901, of the fifteen taluks and zamindāri tahsils of which the District is made up:—

The people.

Taluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Walajūpet ...	484	3	246	221,812	458	— 7·3	17,531
Kālahasti ...	638	1	324	94,132	148	+ 15·0	4,327
Chandragiri ...	548	1	231	113,550	207	— 0·8	8,003
Puttūr ...	542	...	340	170,235	314	+ 9·4	7,328
Tiruttani ...	401	...	327	171,005	426	— 1·2	7,828
Chittoor ...	793	1	338	209,868	265	+ 4·8	10,541
Punganūru ...	648	1	564	96,852	149	+ 5·2	4,126
Palmaner ...	439	...	91	51,575	117	+ 7·1	2,434
Vellore ...	421	2	149	200,541	476	+ 3·9	18,583
Gudiyāttam ...	447	1	183	195,665	438	+ 10·7	9,486
Arcot ...	432	1	258	180,564	418	+ 2·1	15,327
Kangundi ...	347	...	268	64,446	186	+ 19·2	1,789
Arni ...	184	...	139	96,542	525	+ 5·2	7,368
Polūr ...	596	1	170	155,673	261	+ 11·4	8,229
Wandiwash ...	466	...	284	185,252	398	+ 4·2	11,580
District Total ...	7,386	12	3,912	2,207,712	299	+ 4·4	134,530

In the density of its population, like Coimbatore and Salem, both of which also consist largely of hill and jungle, it is below the average of the southern Districts. In Palmaner and PUNGANURU ZAMINDARI on the Mysore plateau and in the KALAHASTI ESTATE, there are less than 200 persons to the square mile. The population of the District in 1871 was 2,015,278; in 1881, 1,817,814; in 1891, 2,114,487; and in 1901, 2,207,712. In the last 30 years, it has only increased by about 13 per cent. The decline of nearly one-tenth in the decade 1871-1881 was due to the great famine of 1876. In the ten years ending 1901, the increase was small, being only 4 per cent. Continuous high prices led to considerable emigration in this period to Madras City, Chingleput District and the Kolār Gold Fields in the neighbouring State of Mysore. In 1901, Madras

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City contained 26,000 persons who were born in North Arcot, Chingleput 37,000 and Mysore State no less than 54,000.

Like those of Chingleput and Salem, the 3,912 villages in North Arcot are small, containing only 520 souls on an average. The District possesses twelve towns, *viz.*, the municipalities of VELLORE, population 43,537, GUDIYATTAM (21,335), TIRUPATI (15,485) and WALAJAPET (10,067) and eight smaller Unions. CHITTOOR, its administrative head-quarters, ranks only seventh in size among its towns. Except perhaps Tirupati, which owes its vitality to its temple, and Gudiyattam and Ambūr, which contain a large number of enterprising Labbai traders, none of these towns is growing. The population of Vellore declined in the decade 1891-1901 and that of Arcot and Walajāpet, which were once trade marts but have now been deserted by the stream of commerce, is even less than it was 30 years ago.

Of the people of North Arcot 2,068,386, or nearly 94 per cent., are Hindus, 103,088 (5 per cent.) Musalmāns and 22,964 (one per cent.) Christians. Christians have, however, more than doubled in numbers in the last 20 years. Three-fourths of them are Roman Catholics. Jains number 8,000 and are more numerous than in any other District except South Kānara. More than half of them are in Wandiwāsh tāluk. About 56 per cent. of the people speak Tamil, which is the prevailing vernacular of the south-eastern tāluks, and 39 per cent. talk Telugu, which is the language mainly spoken elsewhere. As so considerable a proportion of the people speak each of these languages, the District Gazette and other official papers are usually printed in both.

Their
castes and
occupa-
tions.

Of the Tamil castes, more than half belong to the two agricultural-labourer communities of the Pallis and Paraiyans, who number respectively 357,000 and 193,000. After these the most numerous body are the Vellālas (166,000), the great land-holding class among the Tamils. Interesting communities are the Irulas, Kanakkans, Mondis and Panasavans, who are found in greater strength in this District than in any other. The Irulas were till recently a jungle tribe subsisting mainly on forest produce, and are now splitting up into two sections, the jungle Irulas and the village Irulas. The latter have taken to cultivation and civilization and look down upon the former. The Kanakkans are an uncommon class of accountants. The Mondis are a body of particularly pertinacious beggars whose methods of extracting alms from the reluctant include cutting themselves with knives and other unpleasant performances. The Panasavans live largely by assisting at weddings and funerals, taking round the invitations and blowing the conches.

The four largest Telugu castes are the Kāpus (149,000), Mālas (144,000), Balijās (131,000) and Kammas (124,000). Balijās are more numerous in North Arcot than anywhere else. Other Telugu castes

which are also found here in greater strength than elsewhere are the Gündlas (oil-pressers); the Mutrāchas (cultivators and shikāris); the Jetti wrestlers; the Jogis, who are jugglers, beggars and pig-breeders, and the Panasas—a class of mendicants.

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The Musalmāns are mainly Sheikhs or Labbais, the latter being of partly Tamil origin and following many Hindu ways and customs. They are among the most enterprising traders in the Province.

Except that an even larger proportion than usual (as many as 74 per cent.) of the people are engaged in agriculture, the occupations of the inhabitants of the District present no striking variations from the normal.

Of the 23,000 Christians in the District, 22,100 are natives. Nearly 17,000 are Roman Catholics, 3,900 are Presbyterians and 900 Anglicans, the last sect consisting almost wholly of Europeans and Eurasians. The earliest mission work was started by Jesuit Roman Catholic priests, who had a church at PUNGANURU, at least as early as 1735. The main field of work of the Catholic Mission now lies in the Polūr and Wandiwāsh tāluks and the Arni jāgīr, which contain the bulk of the Roman Catholic population of the District.

Christian
missions.

The next most important mission is the American Arcot Mission, which began work in 1851. In the first decade the work was largely preparatory and evangelistic but in 1861, the village movement began and has grown steadily, there being now twelve organized churches and a total Christian community under the mission of nearly 4,000. The mission is also doing much useful work in the fields of education and medical relief. Its principal stations are Vellore, Chittoor, Palmaner, Punganūru, Arni, Rānipet, Sholinghur and Arkonam.

Other minor missions working in the District are the German American (Ambūr); the Independent Danish (Vellore); the Dravidian (Vellore); and the Hermannsburg Evangelical Lutheran (Tirupati, Kālahasti and Kārvetnagar).

The major part of the soil in the Government tāluks is of the red ferruginous series (loam and sand), the proportion of red to black being about 4 to 1. The black soils are chiefly found near the principal rivers and occur in all the tāluks but Palmaner. Nearly 50 per cent. of the culturable area consists of more or less fertile loam, black or red. By far the greater part of the black loam is wet (irrigated) land; the greater part of the red is dry land. The soil is fairly fertile except in the open country to the south-east and on the plateau, where there is much scrub jungle. The most productive areas are in Gudiyāttam, Vellore, Chittoor and Chandra-giri tāluks and in the Kārvetnagar zamindāri, where there are many well watered valleys.

General
agricul-
tural con-
ditions.

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The sowing seasons are, for dry land, July to August, and for wet, September to October. About 63 per cent. of the culturable area is cultivated in normal years and about a fourth of this yields in addition a second crop. Paddy, the most important staple, covers in normal years about 36 per cent. of the total cultivated area, while all the dry grains together occupy only 48 per cent. In years of deficient rainfall the area under paddy greatly diminishes, while that under dry food crops increases correspondingly. The deficiency in paddy in the last unfavourable year (1900) was as large as 123,000 acres, or about 33 per cent. of the average area in ordinary years. It is seldom that both monsoons are good, but it is only a deficiency in the north-east rains that materially affects agricultural operations.

Chief
agricul-
tural
statistics
and prin-
cipal
crops.

The 7,386 square miles comprised in the District are made up of 4,093 square miles of ryotwāri and minor inām land, 3,183 square miles of zamīndāris and 110 square miles of whole inām villages. Agricultural statistics are not available for the zamīndāris. Particulars for the ryotwāri and inām land for 1903-04 are given below, areas being in square miles:—

Tāluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irrigated.
Wālājāpet ...	478	15	137	206	123
Chandragiri ...	407	240	46	54	21
Chittoor ...	519	115	129	147	75
Palmaner ...	439	204	46	71	19
Vellore ...	420	204	40	120	50
Gudiyāttam ...	446	159	56	160	72
Arcot ...	432	33	157	183	91
Polūr ...	596	303	33	157	53
Wandiwāsh ...	465	18	97	229	95
District Total ...	4,202	1,291	741	1,327	599

The staple food grains are paddy, *rāgi* (*Eleusine coracana*) and *cambu* (*Pennisetum typhoideum*). The normal percentages of the areas under these crops to the total area cultivated are 36, 13 and 12 respectively. Paddy predominates in all tāluks but Palmaner, where *rāgi* accounts for 43 per cent. of the cropped area. The largest areas are found in Wālājāpet, Arcot and Wandiwāsh tāluks, where there are large tanks fed by the Pālār, Poini, and Cheyyār anicuts. More *rāgi* than *cambu* is grown in Palmaner, Chittoor and Wālājāpet and more *cambu* than *rāgi* in the remaining six tāluks. The crops next in importance are *varagu* (*Paspalum scrobiculatum*), *cholam* (*Sorghum vulgare*), and horse-gram (*Dolichos uniflorus*). Sugar-cane is mainly grown in Palmaner, Chittoor, Chandragiri and Arcot tāluks. A considerable quantity of gingelly is raised in Wālājāpet, Arcot, Wandiwāsh and Polūr, while ground-nut is

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mainly sown in Chittoor, Wālājāpet, Arcot and Wandiwash. Indigo was once an important crop but is so no longer. It is principally grown in Wālājāpet, Arcot, Vellore, and Gudiyāttam. Gānja (*Cannabis sativa*), an intoxicating drug, is specially grown on the Javādi Hills under licenses issued by the Abkāri department. There are about 3,000 acres of mango groves in Chittoor, Gudiyāttam, Vellore and Chandragiri. The fruit is exported to Madras, Calicut, the Nizām's Dominions, Bombay, Rangoon and other places, where it fetches a high price under the trade name of Mazagon (Bombay) mangoes. Oranges are largely sent to Madras, Salem and elsewhere from Ambūr and other villages in Vellore tāluk and Kārvetnagar zamīndāri. Betel leaves are exported from stations on the Madras and South Indian Railways in the District to various parts of northern India. Limes are raised for export to Madras in a few villages in Chittoor and Gudiyāttam tāluks.

The area of holdings in 1903-04 is larger by 27 per cent. than the area 30 years ago. About 500 square miles of unoccupied culturable land exist, and is distributed over all the tāluks, but the soil is inferior. The only improvements in agricultural methods worth noting are the practice of raising a dry crop on wet lands as a first crop in years of scanty rainfall and the adoption of the cultivation of *puludi* paddy. This latter is sown without the aid of irrigation and is generally put down two months before the irrigation source is expected to receive a supply. In the last two or three months of its growth it is irrigated. This system brings the crop to maturity even if water is scarce. The almost total displacement of the old rude wooden sugar-cane mills by iron ones and the discarding of the local ground-nut seed for better foreign varieties must also be noted. Advances have been taken under the Loans Acts by the ryots of this District far more freely than in any other in the Presidency except Coimbatore. In the sixteen years since 1888, more than eight lakhs have been advanced, the greater portion of which has been laid out in digging or repairing wells.

Improve-
ments in
agricultural
prac-
tice.

Cattle of an ordinary type are bred in Gudiyāttam and Palmaner tāluks and in certain zamīndāri areas such as Punganūr, Kallūr and Pulicherla, the chief markets being Rānipet and Gudiyāttam. In Kālāhasti many Nellore cattle are used but the ryots do not breed from them. Above the Ghāts good bullocks and cows are occasionally seen, the former of the Mysore breed (chiefly in Kangundi) and the latter in Punganūr. Sheep and goats are nowhere bred on a large scale. The sheep of the plains are the common long-legged red kind, but on the plateau, as well as in the west of Polūr, a small black breed called Kurumba sheep is met with which carries a fair quantity of wool. This is extensively used for making the coarse woollen blankets used by the ryots. In 1882 an attempt was made to improve the breed by the importation of

Cattle,
sheep and
goats.

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half-bred merino sheep from Mysore, but the experiment failed as the animals would not thrive here.

None of the other domesticated animals deserves notice. Bullocks are chiefly owned for ploughing and lifting water from wells, while sheep and goats are reared for penning in the fields for manure as well as on account of their skins. These are either tanned at Rānipet, Ambūr and other places or exported in the raw state.

Irriga-
tion.

Of the total area of ryotwāri, minor inām and whole inām land cropped, 45 per cent., or 599 square miles, were irrigated in 1903-04. Of this 331 square miles (55 per cent.) were watered from tanks, 131 square miles from wells, and 75 square miles from Government canals. The figures given above show in which tāluks this extent was found. In a favourable season the irrigated area will often exceed 50 per cent. of the net area cropped, the increase being chiefly under tanks. About 60 per cent. of the area supplied is under small tanks dependent on precarious local rainfall. The remaining 40 per cent. depends on larger tanks fed from dams across the rivers. This latter supply is also precarious, for the courses of the rivers are short, and, rising either in the District itself or just outside it, they are largely dependent on local rainfall. The principal anicut or barrage systems are the Pālār anicut, which supplies 50,000 acres of first, and 25,000 acres of second, crop; the Poini anicut, watering 22,000 acres of first crop and 9,000 of second; and the Cheyyūr anicut which irrigates 32,000 acres altogether. There are 3,200 tanks in the District, of which 2,900, or more than 90 per cent., are small affairs not irrigating more than 200 acres each. More than 50 per cent. of these irrigate 50 acres each or less.

A feature of the District is the number of wells which have been sunk in it to supplement the precarious tank supply. About 50,000 of these insure a crop on at least as many acres of wet land, but there is still much scope for further protection of the same kind. In addition about 75,000 wells irrigate more than 100,000 acres of dry crops. An ordinary well will always insure a crop during one, and frequently during two, years of drought.

About 45,000 acres of wet land are irrigated by channels, often several miles long, dug with great labour in the sandy beds of the rivers to tap the underground flow, which is remarkably copious and constant. Spring channels are also dug in likely places, especially in Gudiyāttam tāluk, to utilise spring water. These irrigate on the whole about 15,000 acres.

Forests.

The area in square miles of the reserved forests in each tāluk has already been given above. The Javādi Hills, situated in the Polūr and Vellore tāluks, make up the largest area reserved; next come the forests in Chandragiri, Palmaner and Gudiyāttam. Arcot, Wāljāpet and Wandiwāsh possess only a few scattered areas. The forests have been much opened up during the last few years

by the construction of roads and bridle-paths. Four ghāt roads now ascend the Javādi Hills from Amerdi, Arasambut, Alangayam and POLUR, and are connected on the plateau by bridle-paths. Hill villages and enclosures within the forests were demarcated and surveyed between 1900 and 1902 and the revenue settlement of these is about to begin. The forests have yielded a net revenue during the ten years ending with 1902-03, after payment for all improvements in communications, of Rs. 5,33,000, the chief sources of income being receipts from the sale of firewood, minor forest produce, bamboos and timber and fees for grazing. The gross revenue in 1903-04 was Rs. 1,37,000. A working plan, or scheme for felling areas in regular rotations, is under preparation.

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The most valuable tree is the red sanders (*Pterocarpus santalinus*), which grows chiefly in the Chaudragiri forests. It is used for the preparation of a costly red dye. Teak (*Tectona grandis*), blackwood (*Dalbergia latifolia*) and sandalwood (*Santalum album*) are found in small quantities in the Vellore and Polūr jungles.

Good granite for building is procurable all over the District. Deposits of corundum and mica occur here and there but the efforts hitherto made to work them at a profit have not proved successful. There is said to be copper in Kālahasti zamīndāri but no capitalist has yet been found to attempt the exploiting of it. Gold exists in the Pulicherla estate but has not been systematically mined. It is largely distributed in Kangundi zamīndāri where there are a large number of old workings, a continuation of the Kolār workings just over the border in Mysore. The Mysore Reefs (Kangundi), Kempinkote and Yerrakonda gold mining companies carried on operations here for some years. Of these, the first was the most successful and extracted a considerable quantity of the metal, but the excessive hardness of the quartz and the fickleness of the lode, due to the broken nature of the country, proved too great a strain on the resources of the company and it has now practically closed operations.

Mines and
minerals.

Weaving, with its complements of spinning and dyeing, is the only noteworthy handicraft in the District; it is the most important occupation next to agriculture. The bulk of the weavers produce only the common cotton fabrics used by the lower classes of the people. The valuable silk stuffs worn by the wealthier Brāhman women are woven at ARNI. Silk fabrics approaching these in quality are also manufactured at Wālājāpet and Tiruvattūr. Woollen carpets are a speciality of the Vellore Central jail, but the industry has not spread beyond its walls, though specimens of a poor quality are made at Wālājāpet. Wālājāpet is also noted for the manufacture of cloths on which patterns of birds, flowers, &c., are printed by hand in sundry colours by means of carved wooden blocks or engraved copper plates. The usual small local industries are conducted by blacksmiths,

Arts and
Manufac-
tures.

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pottery, leather-makers, goldsmiths and so on. An ornamental green glazed earthenware of quite artistic design, some of the patterns being borrowed from European models, is made by a single family at Karigiri in Gudiyāttam tāluk. A little brass-work is done at Vellore and Tirupati and at the latter place some good wood-carving also. Rush mats are made at Wandiwāsh and glass bangles in the Kālahasti zamīndāri. There are a number of tanneries in Ambūr, Pernambut, Rānipet and other places. These are chiefly in the hands of the Labbais, an enterprising class of Tamil-speaking Muhammadans. The largest in the District is at Devalapuram near Ambūr, which employs a daily average of 500 persons. In the English market the leather from this District is technically known as Rānipet and is highly valued.

Com-
merce.

The chief exports of North Arcot are rice, ground-nuts, hides, skins and horns, jaggery (coarse sugar), tamarind, stone and Indian piece-goods; while the principal imports are European piece-goods, yarn and twist, salt, chillies, tobacco and a certain amount of unwrought brass and iron. Gudiyāttam is the centre of the skin trade of this and the adjoining Districts. Vellore and Wālājāpet were formerly important local marts, but since the opening of the railways they have declined. The grain trade of Vellore is still, however, considerable. Local exchange of commodities is effected as elsewhere at numerous weekly markets. Besides the Labbais already referred to, the chief trading castes are the Balijās and Komatis.

Railways
and
Roads.

North Arcot is better off in the matter of railways than any other District in the Presidency. The Madras Railway, which is on the standard gauge, enters it some ten miles east of ARKONAM, and from the latter place the north-west line runs through Tiruttani, Puttūr and Renigunta junction to the Cuddapah frontier. The south-west line passes through Wālājā Road and Kātpādi junctions, Gudiyāttam and Ambūr on its way to JALARPET in Salem, and the Bangalore branch from the latter place enters the District again in the Kangundi zamīndāri, the principal station being Kuppam at the top of the steepest part of the ghāt. A short branch line four miles in length runs to Rānipet from Wālājā Road junction.

The South Indian Railway, a metre-gauge line, has now a very large mileage in the District. The oldest portion is that from Conjeeveram to Arkonam. The line was subsequently continued to CHINGLEPUT and connected with the main line. The most important section of the South Indian system in the District is a line opened in 1891 which, starting from VILLUPURAM in South Arcot, runs through Polūr, Vellore, Kātpādi junction and Chittoor to Pākāla junction. From here one branch has been taken eastwards through Chandragiri to join the previously existing metre-gauge line opened in 1887 between TIRUPATI and NELLORE, which passes through Renigunta junction and Kālahasti to GUDUR in Nellore District.

where it meets the north-east section of the Madras Railway, while in the year 1892 another branch from Pakāla was made across the plateau, running north-westward through the Cuddapah and Anantapur Districts and joining the Southern Mahratta system at DHARMAVARAM. The total length of railway in the District is 333 miles, of which 166 belong to the Madras Railway and 167 to the South Indian.

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The District is also well supplied with roads, the total length of 1,483 miles being metalled and in charge of the local boards. The most important routes are that from Madras to Calicut, which traverses the Wālājāpet and Vellore tāluks, passing through Kāveri-pāk, Wālājāpet, Rānipet, Vellore and Ambūr; the Bombay trunk road, which leaves this at Rānipet, and passes through Chittoor, PALMANER and Punganūru; the Kurnool trunk road from Chittoor through Puthalpet and Damalcheruvu to the Cuddapah frontier; a branch from the last-mentioned road through Chandragiri, Tirupati and Kālahasti to Nāyudupeta in Nellore, where it joins the coast road; and a road from Wālājā Road railway-station to Wandiwāsh, passing through Arcot and Tiruvattūr. Avenues are maintained along 1,019 miles.

During the first third of the last century, there were four famines; during the second third (1833-66) the District escaped. In 1877 came the great famine. In October of that year, the number of persons receiving relief reached 205,600; and it is reckoned that the population was diminished by one-fifth by privation and disease. No less than 116,000 cattle were also estimated to have perished. The expenditure by the state on relief-works amounted to 30 lakhs and on gratuitous relief to another 16½ lakhs. Famine or severe scarcity has since occurred in 1891-92, 1896-97 and 1900-01. In the first of these years the highest number of persons on relief was some 15,000 and remissions of revenue amounting to over four lakhs were granted.

Famine.

For general administrative purposes the District forms four sub-divisions, of which two, Vellore and Rānipet, are in charge of members of the Indian Civil Service and the other two, Arni and Chittoor, are managed by Deputy Collectors. Vellore comprises Vellore, Gudiyāttam and Arcot tāluks and the Kangundi zamīndāri tahsīl; Rānipet includes Wālājāpet and Chandragiri tāluks and the zamīndāri tahsīls of Kālahasti, Puttūr and Tiruttani (the latter two forming the Kārvetnagar zamīndāri); Arni is made up of the Polūr and Wandiwāsh tāluks and the Arni jāgīr; and Chittoor consists of Chittoor and Palmaner tāluks and the Punganūru zamīndāri tahsīl.

District
sub-divi-
sions and
staff.

Each tāluk is in charge of a tahsīldār and each zamīndāri tahsīl of an independent deputy tahsīldār who is also a sub-magistrate. Except in Palmaner, where the tahsīldār is himself

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the sub-magistrate, there is a stationary sub-magistrate for each taluk. There are deputy tahsildars to assist the respective tahsildars at Venkatagirikota (Palmaner), Vellore, Pernamallūr (Wandiwāsh) and Arkonam (Wālājāpet). The District staff includes the usual superior officers and the head-quarters of an Assistant Commissioner of Salt and Abkāri and a Deputy Inspector-General of Police are situated at Vellore.

Civil
Justice
and Crime.

Civil justice is administered by six District Munsiffs at Vellore, Chittoor, Tirupati, Sholinghur, Rānipet and Arni and by the District Judge, whose court is at Chittoor. A Subordinate Judge also sits at Chittoor for six months in the year and at Salem for the other six. The chief criminal tribunal is the Court of Sessions. Crime fluctuates as elsewhere with the state of the season, but dacoities and cattle thefts are more than usually numerous.

Land
Revenue
admini-
stration.

Little is known of the revenue history of the District prior to the time of the Nawābs of the Carnatic who ruled at Arcot from the commencement of the 18th century as deputies of the Nizām at Hyderābād. In the 18th century the District was the scene of incessant warfare, and the petty local chiefs and zamīndārs, over whom the Nawāb, distracted by his own troubles and anxieties, ceased to exercise any efficient control, extracted as high a rent as they could from the helpless cultivators. When the Nawāb formally gave place to the British Government in 1801 the rents were found to be oppressive and unsystematic and successive Collectors endeavoured to introduce a better revenue system based on rational and just principles which might make the revenue demand reasonably consistent with the capacity of the cultivators and the resources of the land. After a system of leasing out whole villages to their head inhabitants, who collected what rents they could from the cultivators, had been tried for some years without success, it was resolved in 1822 to introduce the ryotwāri system which has since prevailed. In 1805 the Collector (Mr. Græme) made a general survey and settlement in the northern part of the District. The assessments then fixed, however, were still very high and it was not until between 1872 and 1879 that the revenue administration gradually reached the stage in which it now remains. In 1872 a regular cadastral survey of the District was begun. This was followed by a re-settlement of the revenue, which was completed in 1885. The survey found an excess of only one per cent. over the extent shown in the accounts; the settlement raised the land revenue by 5 per cent., but this was made up of an increase of 10 per cent. in the assessment of the irrigated lands and a decrease of 3 per cent. in that on dry lands. The average assessment on dry land is now R. 1-4-2 (maximum, Rs. 3-8-0; minimum, As. 6) and that on wet land Rs. 4-15-2 (maximum, Rs. 8; minimum, Rs. 2). The revenue from

land and the total revenue in recent years are given below in thousands of rupees:—

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—	1880-81.	1890-91.	1900-01.	1903-04.
Land revenue ...	3,200	3,401	2,632	3,587
Total revenue ...	3,853	5,066	4,062	5,228

Outside the four municipalities, local self-government is in the hands of the District board and (under it) of four taluk boards, one for each revenue sub-division. The local affairs of 21 of the smaller towns are managed by 'Union' panchāyats established under the Local Boards Act of 1884. In 1903-04 the total expenditure of all these bodies amounted to 4·36 lakhs, of which 2·26 lakhs were devoted to roads and buildings, 1·06 lakhs to medical institutions, sanitation and vaccination, and Rs. 67,000 to education.

Local
boards.

The District Superintendent of Police at Chittoor has general control over the force throughout North Arcot but an Assistant Superintendent stationed at Vellore has immediate charge of the southern portion of the District, consisting of Wāljāpet, Kangundi, Vellore, Arcot, Polūr, Arni and Wandiwāsh. The principal of the Vellore police training school, who is an officer of the force, has recently been put in charge of Gudiyāttam as a Special Assistant Superintendent. There are 98 police-stations and the force numbers 1,305 constables working under nineteen Inspectors, besides 2,032 rural police. The reserve force at the District head-quarters numbers 62 men. Vellore contains one of the seven Central jails of the Presidency. This has accommodation for 1,217 males and 90 females as well as for 76 persons in the hospital, 49 in the observation cells and ten civil prisoners. The convicts are largely employed in making tents for Government departments and the private market. On an average 150 tents valued at Rs. 20,000 are made annually. Cotton and woollen carpets are also manufactured, the average annual outturn being worth about Rs. 8,000. There are also nineteen subsidiary jails located at the head-quarters of the several sub-magistrates, which can accommodate 373 persons.

Police and
Jails.

North Arcot stands tenth among the 22 Districts of the Presidency in the literacy of its population, of whom 5·1 per cent. (11·6 males and ·6 females) are able to read and write. Compared with others of the southern Districts it is backward. The Tamils in it are better educated than the Telugus and, what is most unusual, the Musalmāns than the Christians. Of the nine taluks, education is most advanced in Vellore, Wāljāpet and Arni and is most backward on the plateau.

Educa-
tion.

NORTH
ARCOT
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On the 31st March 1904, there were in the District 1,611 educational institutions of all kinds, of which 1,053 were 'public' and 558 private concerns. Of the former as many as 1,015 were primary schools. Secondary schools numbered 28, and training and special schools nine, and there was one college. The number of girls reading in both public and private institutions was 7,082. The total number of pupils under instruction in the District in 1880-81 was 16,642; in 1890-91, 37,906; in 1900-01, 48,053; and in 1903-04, 51,000. Of the public institutions, eleven were managed by the Education department, 91 by local boards and 24 by municipalities; while 549 were aided from public funds and 378 were unaided but conformed to the rules of the Education department. The training schools comprised four for masters and one for mistresses; and the four special schools are the American Arcot Mission industrial school at Arni, the Hermannsburg Lutheran German Mission (commercial) school at Tirupati, the Rānipet women's industrial school and the Anjumāni industrial school at Vellore. An enormous majority of the pupils under instruction are only in the primary classes, the number of girls who have advanced beyond that stage being especially small. Of the male population of school age, 18·6 per cent. were in the primary stage of instruction and of the female population of the same age, 3·4 per cent. Among Musalmāns, the percentages of the scholars (including those at Korān schools) of each sex to the male and female population of school age were 8·4 and 25 respectively. Some 3,453 Panchama pupils were under instruction in 166 primary schools. The American Arcot Mission college is at Vellore. It is the highest educational institution in the District and teaches up to the F.A. standard. It was affiliated to the University of Madras in 1898. During 1903-04 it had an average daily attendance of 655, of whom 23 were in the F.A. classes. The total expenditure on education in the District in 1903-04 was Rs. 2,48,000, of which Rs. 88,500 were derived from fees. Of this amount 62 per cent. was devoted to primary education.

Hospitals
and dis-
pensaries.

The District possesses six hospitals, which are situated at Vellore, Chittoor, Rānipet, Tirupati, Arni and Palmaner. That at Rānipet is maintained by the American Mission; the others by the municipalities or local boards concerned. They contain accommodation for 183 in-patients. There are also fourteen dispensaries, located as a rule at the head-quarters of the sub-magistrates, which are all maintained by the municipalities or the local boards. In 1903 195,000 patients, of whom 2,600 were in-patients, were treated and 7,000 operations were performed. The expenditure during the year was Rs. 46,000, the bulk of which was met from local and municipal funds. A fine women's hospital embodying all the latest structural improvements and equipped with up-to-date surgical appliances has lately been opened at Vellore by the American Mission.

In regard to vaccination, the District has been specially backward of late years, owing chiefly to the unfavourable character of the season and consequent distress among the agricultural population, and also to the spread of plague, which has made ignorant parents afraid lest under the guise of vaccination their children should be inoculated against that disease. The number of persons successfully vaccinated during 1903-04 was only 22 per mille of the population as against the Presidency mean of 30. Vaccination is now compulsory in the four municipalities and in fourteen of the 21 Unions.

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Vaccina-
tion.

North Arcot Manual by A. F. Cox and H. A. Stuart, 1895.

Rānīpet Sub-division.—Sub-division of the North Arcot District of the Madras Presidency consisting of the tāluks of WALAJAPET and CHANDRAGIRI and the zamīndāri tahsils of KALAHASTI and KARVETNAGAR.

Walājāpet Tāluk.—Tāluk on the eastern boundary of the North Arcot District, Madras, lying between 12° 51' and 13° 12' N. and 79° 15' and 79° 48' E. It is made up of the old tāluks of Kāveripāk and Sholinghur, which were combined in 1861, together with a few villages from the former tāluk of Tiruvallam. For the most part the surface is flat, but in the north several small hills occur. The highest and most remarkable of these is the Sholinghur hill, upon which is perched a celebrated temple. The tāluk is well supplied with communications, the south-west line of the Madras Railway crossing it from east to west and the north-west line traversing it from south to north. Its area is 484 square miles. In 1891 the population was 239,349 but in 1901 it had declined to 221,812, the decrease being over seven per cent., a more serious fall than occurred in any other tāluk. It is still, however, the most populous part of the District. It contains 246 villages and the three towns of RANIPET, population 7,607, SHOLINGHUR (6,442) and WALAJAPET, its head-quarters (10,067). The land revenue and cesses demand in 1903-04 was Rs. 5,23,000.

Kālahasti Tahsīl.—A zamīndāri tahsīl in KALAHASTI ZAMINDARI in the north-east of North Arcot District, Madras, lying between 13° 14' and 13° 55' N. and 79° 27' and 79° 59' E. Population 94,132 in 1901 as against 81,860 in 1891; area 638 square miles; the tahsīl contains 324 villages and one town, KALAHASTI, its head-quarters, population 11,992; peshkash and land cess demand in 1903-04, Rs. 78,000.

Kālahasti Zamīndāri.—One of the largest zamīndāri estates in the Madras Presidency, situated partly in North Arcot District, partly in Nellore, and partly in Chingleput. Number of villages, 406 in North Arcot, 201 in Nellore, and 206 in Chingleput; area, 638 square miles in North Arcot, 576 in Nellore, and 250 in

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Chingleput; population (1901) 223,327. The capital is the town of Kālahasti and here the zamīndār resides.

The history of the family, which belongs to the Velama caste, is obscure. The original owner of the estate probably received it from one of the Vijayanagar kings in the fifteenth century on condition of maintaining order in this part of the country. The property at one time spread as far as the site of Fort St. George and the English in 1639 obtained the land on which the fort now stands from the proprietor at that time. The settlement was named Chennappapatnam in honour of the zamīndār's father. The estate came under British control in 1792, and a formal grant to the family was made in 1801. The zamīndār afterwards received the hereditary title of Rājā. The annual gross revenues of the estate now amount to over 5 lakhs. The peshkash (or permanent revenue paid to Government) for the whole of it is 1·7 lakhs and the land cess demand amounts to Rs. 35,000. Owing to the zamīndār being heavily encumbered, it was recently taken under the management of the Court of Wards, but it has now been handed back to the proprietor.

The estate is in a great measure covered by scrub jungle, especially the portion in North Arcot District. Much firewood is sent to Madras City from these forests, and leopards, bears and small game are fairly numerous in them. A large number of the jungle tribes of the Irulas and Yanadis live in them and subsist by gathering honey, roots and bark for sale in the neighbouring villages. The soil of the estate is not very rich but about 140,000 acres are under cultivation.

Chandragiri Taluk.—Taluk in the north of the North Arcot District, Madras, lying between 13° 24' and 13° 47' N. and 78° 58' and 79° 35' E., with head-quarters at the village of the same name. It contains 231 villages and one town, the municipality of TIRUPATI, population 15,485. Population in 1901, 113,550 against 114,436 in 1891. Land revenue and cesses demand for 1903-04, Rs. 1,30,000. Area 548 square miles.

Chandragiri (Moon hill) is one of the most hilly and picturesque taluks in the District. The EASTERN GHATS run through the north of it and the Kārvetnagar hills occupy most of the south. It may, indeed, be said to consist of hills. These are more or less bare and rocky but enclose narrow valleys rich with alluvial soil brought down from their sides. Its physical characteristics render it one of the most fertile areas in the District, the scrub jungle upon the hills retaining moisture and keeping the sub-soil water at a high level, and also providing abundance of leaf manure, which the ryots are not backward in using. Some of these jungles form extensive and valuable forests.

Kārvetnagar Zamīndāri.—An ancient zamīndāri held on permanent tenure under a *sanad* (grant) issued by the British Government in 1802. It is situated in the north-east of the North Arcot District, Madras, between 13° 2' and 13° 35' N. and 79° 14' and 79° 4' E., and has an area of 943 square miles; the number of villages is 667, and the population (1901) 341,240. The whole of the zamīndāri is hilly except the south-east; penetrating the hills run numerous picturesque ravines or *konas* which are well wooded and fairly stocked with game. One of the most charming of these is the Sadāsiva kona, which is about 10 miles north-east of the Puttūr railway-station on the Madras line. Here a perennial stream flows eastwards by a succession of waterfalls and cascades, by the sides of which tree-ferns and several other varieties of water-loving plants grow in profusion.

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The principal streams which drain the zamīndāri are named after the towns of Nārāyanavanam, Nagari and TIRUTTANI by which they flow. They are dry except during the rains but have excellent underground springs, the water of which is tapped by means of channels and irrigates considerable areas of fertile land on both banks. The soil of the estate is fertile, but much of it is covered with hill and jungle and three-fourths of the area is unculturable, and only about 130,000 acres are under the plough. Indigo is still largely cultivated, but of late years the market for the dye has been depressed owing to the competition of its new chemical rival. From the forests of the zamīndāri much fuel is exported to Madras by rail.

The total peshkash (or permanent revenue paid to Government) on the estate is 1·7 lakhs and the cesses in 1903-04 were an additional Rs. 50,000. The annual gross income of the whole property averages between six and seven lakhs but it is very greatly encumbered. Some of the villages have been sold in satisfaction of decrees of the Civil Courts and now form separate properties, and the estate is so involved in debt that it was taken under the management of the Court of Wards for a time. It has now been handed back to the proprietor.

Kārvetnagar, seven miles from Puttūr railway-station, is the chief town and the residence of the zamīndār, who has the hereditary title of Rājā. Puttūr, Nārāyanavanam, Nagari and Tiruttani are other important places.

Puttūr Tahsil.—A zamīndāri tahsil consisting of the northern half of the KARVETNAGAR ZAMINDARI, in the North Arcot District, Madras. Its area is 542 square miles and its population was 170,235 in 1901 against 155,546 in 1891. It contains 340 villages, the head-quarters being Puttūr.

Tiruttani Tahsil.—Zamīndāri tahsil in the North Arcot District, Madras, consisting of the southern half of the KARVETNAGAR

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ZAMINDARI. Area 401 square miles ; population in 1901, 171,005 against 173,151 in 1891 ; number of villages 327 ; head-quarters, TIRUTTANI.

Chittoor Sub-division (*Chittūr*).—Sub-division of the North Arcot District of the Madras Presidency consisting of the tāluks of CHITTOOR and PALMANER and the PUNGANURU zamīndāri tahsīl.

Chittoor Tāluk.—Tāluk lying between 13° and $13^{\circ} 31' N.$ and $78^{\circ} 48'$ and $79^{\circ} 19' E.$ in the centre of North Arcot District, Madras. It is the largest tāluk in that District, having an area of 793 square miles, and it contains one town, CHITTOOR, the head-quarters of the District, population 10,893, and 338 villages. Population in 1901, 209,868 against 200,249 in 1891. The tāluk consists of an undulating plain, broken by a large number of naked rocky hills rising abruptly from the surrounding country and covered with enormous granite boulders. The soil is good and large areas are under irrigation, and the contrast between the vivid green of the patches of cultivation and the varied hues of the rocky eminences is most picturesque. The land revenue and cesses demand in 1903-04 was Rs. 3,21,000.

Punganūru Tahsīl and Zamīndāri.—An estate situated above the Ghāts in the north-west corner of the North Arcot District, Madras, between $13^{\circ} 10'$ and $13^{\circ} 40' N.$ and $78^{\circ} 22'$ and $79^{\circ} E.$ and adjoining Mysore State. It extends over 648 square miles and forms a tahsīl in charge of a deputy tahsildār and sub-magistrate. Its population in 1901 was 96,852 against 92,023 in 1891, and it contains 564 villages and one town, PUNGANURU, its head-quarters and the residence of the zamīndār, the population of which numbers 6,353. The peshkash and land cess in 1903-04 amounted to Rs. 81,000. The estate runs up to the Mysore plateau, and its temperature is thus considerably lower than that of the rest of the District. Large game is abundant and 25 years ago even elephants were found. An excellent breed of cattle is maintained and sugar-cane is largely cultivated. The family of the present zamīndār is said to have settled in the country as far back as the thirteenth century and its members have a long local history. During the Mysore wars the proprietor assisted Cornwallis with transport and provisions and he and his successors managed the estate for many years as lessees for the English. In 1832, the owner died without issue and a series of disputes arose. The estate eventually passed to his brother. A permanent *sanad* (grant) for it was bestowed by Government in 1861. The zamīndār belongs to the sect of the Lingāyats.

Palmaner Tāluk.—Tāluk in the west of the North Arcot District, Madras, lying between $12^{\circ} 46'$ and $13^{\circ} 17' N.$ and $78^{\circ} 25'$ and $78^{\circ} 49' E.$ Population in 1901, 51,575, against 48,135 in 1891, dwelling in 91

villages. Land revenue and cesses demand in 1903-04, Rs 92,000. Area 439 square miles. The taluk is situated upon the Mysore plateau and lies about 2,500 feet above sea level. It is consequently much cooler than the lower parts of the District and in the winter months the mornings are quite sharp and cold. There is a large extent of jungle. Though devoid of railway communication the taluk is well provided with roads. The head-quarters are at the village of PALMANER.

Vellore Sub-division.—Sub-division of the North Arcot District of the Madras Presidency consisting of the taluks of VELLORE, GUDIYATTAM and ARCOT and the KANGUNDI zamindari tahsil.

Vellore Taluk.—Taluk in the south of the North Arcot District, Madras, lying between $12^{\circ} 39'$ and $12^{\circ} 57'$ N. and $78^{\circ} 39'$ and $79^{\circ} 13'$ E. The northern portion runs along the right bank of the PALAR and is flat and open, but most of the rest is covered with numerous hill ranges. More than one-fourth of the total extent (421 square miles) is under forest. The population was 200,541 in 1901 against 192,937 in 1891. It contains 149 villages and two towns, namely, AMBUR, population 15,903, and VELLORE municipality, the head-quarters of the taluk, population 43,537. The land revenue and cesses demand in 1903-04 amounted to Rs. 2,53,000.

Gudiyattam Taluk.—Taluk in the south of the North Arcot District, Madras, lying between $12^{\circ} 42'$ and $13^{\circ} 5' N.$ and $78^{\circ} 35'$ and $79^{\circ} 16' E.$ with an area of 447 square miles. The taluk contains one town, GUDIYATTAM, the head-quarters, population 21,335, and 183 villages. Population rose to 195,665 in 1901 from 176,709 in 1891. The land revenue and cesses demand in 1903-04 was Rs. 3,27,500. The taluk is a long strip of land lying on the northern bank of the PALAR opposite to the Vellore taluk on the other side of the river. The EASTERN GHATS throw many spurs into its western portion which is thus mainly composed of hills interspersed with valleys. The soil is generally good, being a mixture of sand and red clay.

Arcot Taluk.—Taluk on the eastern boundary of the North Arcot District, Madras, lying between $12^{\circ} 38'$ and $12^{\circ} 57' N.$ and $79^{\circ} 11'$ and $79^{\circ} 45' E.,$ with an area of 432 square miles. It contains one town, its head-quarters, ARCOT, population 10,734, and 258 villages. Population rose to 180,564 in 1901 from 176,878 in 1891. The land revenue and cesses demand for 1903-04 amounted to Rs. 4,81,000. Almost the whole of the taluk consists of a flat and undiversified plain, but on the extreme west and east are a few insignificant, barren hills. The soil is poor, being very gravelly.

Kangundi Tahsil.—Zamindari tahsil in the south-west corner of the North Arcot District, Madras, lying between $12^{\circ} 35'$ and $12^{\circ} 56' N.$ and $78^{\circ} 14'$ and $78^{\circ} 35' E.$ It is 347 square miles in area and comprises the Kangundi zamindari. The head-quarters are now the village

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of Kuppam, which is also the residence of the zamīndār, but the tahsīl gets its name from the village of KANGUNDI which was formerly the chief town in this part of the country. The population increased to 64,446 in 1901 from 54,052 in 1891, the advance during the decade (19 per cent.) being the highest in any portion of the District. The rise was largely due to the existence of several gold mines, a continuation of those in the adjoining Kolār Gold Field, in the part of it which borders on Mysore State. The number of villages is 268 and the peshkash (including cesses) payable to Government in 1903-04 amounted to Rs. 29,500.

Arni Sub-division—Sub-division of the North Arcot District of the Madras Presidency consisting of the zamīndāri tahsīl of ARNI and the tāluks of POLUR and WANDIWASH.

Arni Tahsīl.—A zamīndāri tahsīl in the south of the North Arcot District, Madras, lying between $12^{\circ} 29'$ and $12^{\circ} 49'$ N. and $79^{\circ} 7'$ and $79^{\circ} 24'$ E. and comprising the Arni Jāgīr. Its area is 184 square miles, or less than any other in the District. Total number of villages, 139; population 96,542 in 1901 against 91,730 in 1891; head-quarters ARNI, population 12,485; peshkash payable to Government (including cesses), Rs. 21,000. The jāgīr was granted to an ancestor of the present holder early in the seventeenth century by the Marāthā chief Shāhji as a reward for military services during Shāhji's expedition into the Carnatic.

Polūr Tāluk.—One of the southernmost tāluks in the North Arcot District, Madras, lying between $12^{\circ} 20'$ and $12^{\circ} 45'$ N. and $78^{\circ} 51'$ and $79^{\circ} 22'$ E. Population was 155,673 in 1901 as against 139,701 in 1891. The tāluk contains 170 villages and one town, the head-quarters, POLUR, population 9,206. Land revenue including cesses amounted in 1903-04 to Rs. 3,02,000. The area is 595 square miles. The tāluk is essentially a mountainous area, a large part of it being occupied by the JAVADI HILLS. The forests have great potential value and yield a considerable amount of timber and other produce.

Wandiwash Tāluk.—Tāluk in the south-east corner of the North Arcot District, Madras, lying between $12^{\circ} 21'$ and $12^{\circ} 41'$ N. and $79^{\circ} 19'$ and $79^{\circ} 40'$ E. It consists of level plain diversified only by a very few rocky hills. The soil is poor and the tāluk but thinly wooded. The head-quarters are at WANDIWASH. Population was 185,252 in 1901 as against 177,723 in 1891; total number of villages 284; land revenue and cesses demand for 1903-04, Rs. 5,05,000; area 466 square miles.

Ambūr.—Town situated in $12^{\circ} 48'$ N. and $78^{\circ} 43'$ E. in the Vellore tāluk of the North Arcot District, Madras. Population 15,903 (1901). It is a well-built and compact place standing on the south bank of the PALAR about 30 miles from Vellore and 112 miles (by rail) from

Madras at the foot of the Kadapanattam pass leading into Salem. Ambūr is a station on the Madras Railway and an excellent road connects it with Vellore and Salem. It possesses a considerable trade in oil, ghi and indigo, which the Labbai merchants collect here for export to Madras. The almost inaccessible Ambūr Drug towers above the town and, from its position commanding an important pass into the CARNATIC, has been the scene of severe fighting several times. In 1750, the first pitched battle in the long wars of the Carnatic was fought under its walls and Anwar-ud-dīn, the Nawāb of Arcot, was defeated by Muzaffar Jang. This encounter is remarkable as being the first occasion in which European troops played a conspicuous part in Indian warfare and is memorable also for the effect which it had on the subsequent course of events.

Arcot Town.—Head-quarters of the tāluk of the same name in the North Arcot District, Madras. It lies in 12° 54' N. and 79° 20' E., two miles from RANIPET railway-station on the Rānipet branch of the Madras Railway, on the right bank of the PALAR. Population, 10,734 (1901). The interest of the place is almost entirely historical, and it now possesses no industries or trade of importance and is fast declining. Formerly it was the capital of the powerful Nawābs of the CARNATIC, who are consequently often spoken of in history as the Nawābs of Arcot. In 1712, in order to facilitate operations against Mysore, Saādat-ullah Khān, commanding the Delhi forces, transferred his head-quarters to Arcot, and for the 20 years of his power, and during the time of his successor Dost Alī, it remained the seat of government. But in 1740, the Marāthū army of Hoji. Bhonsla overran the District; Dost Alī was killed in battle near Arcot; Safdar Alī, who succeeded Dost Alī, was murdered in 1742; and his successor Saiyid Muhammad shared the same fate in 1744. During the next seven years Arcot changed hands as many times and in 1751 an English garrison occupied the fort. The capture and brilliant defence of Arcot in that year by Clive with a small force of 200 Europeans and 300 natives opposed to the huge army of Rājā Sāhib, the Nawāb's son, consisting of 120 French, 2,000 regular native troops, 300 cavalry and 5,000 irregular foot soldiers, is among the most remarkable feats of the British arms in India. In 1758, Arcot was surrendered to the French under Lally and two efforts made in the following year to regain possession of it failed. In 1760, however, Col. Coote laid siege to the fort and after a bombardment of seven days took it. For the next 20 years it remained in the hands of the Nawāb Muhammad Alī, the ally of the British; but when in 1780 the Mysore war extended to the District, Arcot was surrendered to Haidar Alī, who held it till 1783. Tipū Sultān succeeded to Haidar's conquests and after destroying the fortifications abandoned the town. In the cession of the Carnatic to the English in 1801, Arcot was included. The descendants of the

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Nawāb, the head of whom is styled the Prince of Arcot, live in Madras, but still hold property in this neighbourhood.

The town was formerly surrounded by a high rampart nearly five miles in circumference, 24 feet broad at the base and twelve feet at the top, and faced with a thick masonry wall. This had five gates, the chief of which was the Delhi Gate which led out upon the bed of the Pālār. The whole is now in complete ruin, but the Delhi gateway still stands and is an interesting relic. It is surmounted by a small chamber from which a pretty view of the river and opposite bank may be obtained. A tradition of doubtful authenticity asserts that this was a favourite resort of Clive. The palace is now a ruin and of the fort hardly a trace remains. Between the old palace and the fort stands the tomb of Nawāb Saādāt-ullah Khān, a domed structure about 50 feet in height and built, without much ornament, of green-stone, each block being beautifully cut and fitted into its place. A monthly allowance is made by Government for the decoration of the tomb and the performance of religious ceremonies. Close to the tomb is the principal mosque, the Jāma Masjid, and within the town are twenty-two other places of Muhammadan worship, all largely attended, besides many other notable tombs. Among the latter that of the fakīr Tipū Aulia is regarded with particular veneration by Muhammadans.

Arkonam.—Village lying in 13° 5' N. and 79° 40' E., in the Walājūpet tāluk of the North Arcot District, Madras, which has sprung into importance only since it became a railway junction. Here the north-west and south-west lines of the Madras Railway meet, and Arkonam also forms the terminus of the branch of the South Indian Railway which runs from the main line at CHINGLEPUT. It has a population of 5,313, many of whom are railway employés. The town is a Union under the Local Boards Act and the head-quarters of a deputy tahsildār and sub-magistrate.

Arni.—Village situated in 12° 41' N. and 79° 17' E., and the largest place in the jāgīr in the North Arcot District, Madras, to which it gives its name. It is the head-quarters of a Deputy Collector and other officials and contains 12,485 inhabitants (1901). The most interesting building is the fort, a large, almost square, structure which has been largely dismantled. Until 30 years ago, Arni was a military station and at one time a very large one, as the long lines of deserted barracks testify. These buildings are fast falling into disrepair but portions are still used as public offices. There are two old European cemeteries near the western walls. An imposing monument in the shape of a high column stands on one side of the parade ground; it was erected, as an inscription shows, by an officer of the garrison in memory of a brother officer whom he shot in a duel. At the north-west angle of the enclosure is a fine old temple somewhat recalling that in the Vellore fort, though it does

not contain such excellent sculpture. A considerable industry in the manufacture of silk and cotton fabrics is carried on in the town.

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Bāpanattam.—A small village lying in $13^{\circ} 5' N.$ and $78^{\circ} 41' E.$, in the Palmaner taluk of the North Arcot District, Madras, seventeen miles from PALMANER, well worth a visit on account of its extraordinary collection of prehistoric kistvaens. They are called by the natives the temples of the Five Pāndavas. There are others elsewhere in this taluk but nowhere are they so numerous as near this village. A few of them were explored by Lieut.-Col. Branfil of the Trigonometrical Survey, who described the result in a paper in Vol. X of the *Indian Antiquary*. They are of unusual interest from the size, shape, and arrangement of the slabs of which they are composed, as well as from their great numbers. It has been suggested that these kistvaens are tombs of the Kurumbas, a caste who are still very numerous in this neighbourhood and were once, according to tradition, a powerful clan. They are sometimes called *Kurumbar-kudi* (Kurumbas' houses) in Tamil.

Chandragiri Village.—Head-quarters of the Chandragiri taluk of the North Arcot District, Madras, situated on the right bank of the Swarnamukhi river, in $13^{\circ} 35' N.$ and $79^{\circ} 19' E.$ Population (1901) 4,923.

Historically, Chandragiri has much interest. To its fort the fallen kings of the great empire of Vijayanagar fled after their power had been crushed at the battle of Talikotā in 1565, and here for some years they maintained a pretence of something of their former state. The fort is said to have been built in A.D. 1000 by Immadi Narasimha Yādava Rāyalu, one of the kings who reigned at Nārāyanavanam in Kārvetnagar zamindāri, and to have been afterwards improved by the Vijayanagar kings. It fell in 1646 into the power of the Sultān of Golconda, from whom it was wrested a century later by the Nawāb of the Carnatic. In 1758 it was held by Abdul Wahāb Khān, brother of the Nawāb. In 1782 Haidar Alī compelled the place to surrender and it remained subject to Mysore until the treaty of Seringapatam in 1792.

The fort is built on a huge granite rock rising about 600 feet above the surrounding country and both from its site and fortifications must in former times have been impregnable by storm. A large space upon the southern side of the hill is enclosed by strong walls, now in ruins, surrounded by a ditch once fed by a natural spring but now almost dry. Within the walls stand the remains of the palace of the Rājā, several small temples, the ruined mud walls of the Muhammadan palace and some mantapams. The main building is about 150 feet long. It faces south, with an imposing and well-balanced façade of three storeys. The sky-line is pleasingly broken by Hindu terminations, resembling the tops of *gopurams* or towers, the largest surmounting the darbār hall. This

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apartment measures 21 feet square. It is surrounded by a colonnade and rises through two storeys in such a way that the larger quantity of light comes through the upper tier of arches, which thus forms a sort of clerestory. The chief interest of the palace lies in the fact that here was signed, in 1639, the original treaty granting to the East India Company the site of Fort St. George. It is maintained in good order by the Public Works department and is now used as a travellers' bungalow.

The modern town of Chandragiri is neatly built and lies to the east of the hill on which stands the fort. The old town has almost disappeared and its site has been converted into fertile fields. The surrounding country is very productive and the scenery charming. Interesting archaeological remains abound, consisting of deserted temples, great reservoirs, and finely carved mantapams or porches.

Chittoor Town (little town).—The head-quarters of the North Arcot District, Madras, and of the Chittoor tāluk. Population 10,893 (1901). It is situated in 13° 13' N. and 79° 6' E., in the valley of the POINI river, on the South Indian Railway eighteen miles north of Kātupādi junction and is 100 miles by road from Madras. Being the head-quarters of the District administration, it contains most of the usual courts and offices and a Roman Catholic chapel. It is 990 feet above the sea and in the winter months it is pleasantly cool, but in former years it suffered from more than one outbreak of a most virulent fever and in consequence the head-quarters of some of the District staff were removed to VELLORE. The place was a military station until 1874 but is now, except as the official centre, of no importance.

Damalcheruvu Pass.—A pass in the Chandragiri tāluk of the North Arcot District, Madras, situated in 13° 29' N. and 79° 3' E., which leads from the CARNATIC to the Mysore plateau and was consequently the scene of frequent fighting in the wars of the eighteenth century. The Marāthā chief Sivajī made his first descent upon the Carnatic by this route. Here in 1740 was fought the battle between the Marāthās and the Nawāb Dost Ali, in which the latter was defeated and killed. A peculiar earthen embankment crosses the road which leads through the pass, and continues over the hills on either side. It is said to extend to TIRUPATI on the one side and to Yelagiri in Salem District on the other, and to have been built long ago by two neighbouring kings to mark the boundaries of their realms.

Gudiyāttam Town.—The head-quarters of the tāluk of the same name in the North Arcot District, Madras. Its inhabitants number 21,335. It was constituted a municipality in 1885, and the average municipal receipts and expenditure in the ten years ending 1902-03 were Rs. 16,600 and Rs. 16,000 respectively. In 1903-04 the income was Rs. 21,200, the chief source being the house and land taxes, and the expenditure was Rs. 21,400. A scheme for providing the town with a proper water-supply is under consideration

Gudiyāttam lies in $12^{\circ} 58'$ N. and $78^{\circ} 53'$ E., three miles north of the PALAR and about the same distance from the railway-station. It is 96 miles from Madras and 318 from Calicut. It is a clean, well-arranged town, most of the houses being tiled and the streets well laid out. The chief industry is weaving, but Labbais and Kānarese merchants carry on a brisk trade, the former in jaggery, hides, tamarind, tobacco and ghī, and the latter in petty shop-keeping and money-lending. Every Tuesday a large cattle fair takes place which rivals that of RANIPET. Some 500 head of cattle are usually exposed for sale, besides the goods found in all ordinary markets.

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Javādi Hills.—The Javādis are a detached group of hills lying between $12^{\circ} 18'$ and $12^{\circ} 54'$ N. and $78^{\circ} 35'$ and $79^{\circ} 11'$ E., and are for the most part situated in the south-west corner of the North Arcot District, Madras, though spurs from them run down into South Arcot and Salem. In North Arcot they form the most lofty peaks of the District, some of their heights attaining an elevation of over 3,000 feet. They are there separated from the EASTERN GHATS by the broad valley of the PALAR. This narrows in the neighbourhood of Ambūr and the Javādis and the Ghāts almost join, but it widens again as it leaves North Arcot and passes into Salem. The Javādis are made up of numerous small plateaux which contain in North Arcot 110 hamlets, or clusters of huts, inhabited by a Tamil-speaking hill tribe called Malaiyālis. These people number nearly 10,000 and though they appear to be ethnologically of the same stock as the Tamils of the low country, their long isolation has led to divergencies in their ways and they possess certain peculiar customs of their own. The climate of the hills is unhealthy and malarial at certain seasons but does not merit the utter condemnation generally accorded it. Spurs from the main range extend in a north-easterly direction as far as the town of VELLORE, gradually declining in height as they approach the Pālār. One high and particularly detached peak, Kailāsagarh 2,743 feet in height, is only six miles distant from Vellore, and having a small bungalow upon its summit it forms a pleasant retreat during the extreme temperatures of the hot weather. The Javādis used to be covered with fine forest but this has been almost entirely destroyed. Much damage was done when the construction of the south-west line of the Madras Railway was in progress, enormous quantities of timber being at that time felled for sleepers. Careful conservation is now doing much to remedy the recklessness of past years. Game is fairly abundant in these hills. Bison, sāmbar, spotted deer, leopards and an occasional tiger are found in them. They are one of the only two tracts in the Presidency wherein the cultivation of the intoxicating hemp (*Cannabis sativa*) is permitted under license. A little coffee cultivation has been attempted on the South Arcot side and the produce is sold in the local markets. There are relics of Hindu temples, with

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some inscriptions, at Kovilanūr on the way from Patrakād to Komatiyūr and sigus of former occupation by a civilised nation.

Kālahasti Town.—Town situated in $13^{\circ} 45' N.$ and $79^{\circ} 42' E.$, in the tahsil and zamindāri of the same name in the North Arcot District, Madras. Population 11,992 (1901). It is the residence of the Rājā of Kālahasti and the head-quarters of the deputy tahsildār and sub-magistrate. A large number of the residents are in the employ of the zamindār, whose residence, an imposing-looking building, faces the eastern street of the old town. Kālahasti is a station on the South Indian Railway and is situated upon the right bank of the Swarnamukhi at the extremity of the Nagari hills. The approach to the town from the river is through the last gap in these hills. Close to Kālahasti they are considered so holy that the quarrying of stone or gravel in them is forbidden. Kālahasti is a very thriving town carrying on a brisk trade in grain, bangles and many other articles. A good deal of cotton stuff is woven in its suburbs and its hand-printed and hand-painted cotton fabrics are famous. Some of the latter gained a bronze medal at the Delhi Darbār Exhibition of 1903. The town is famous for its Siva temple, wherein a grand festival takes place annually during February and March.

Kangundi Village.—Village situated in $12^{\circ} 46' N.$ and $78^{\circ} 27' E.$, in the zamindāri and tahsil of the same name in North Arcot District, Madras. Population 637 (1901). It was once the chief place in the neighbourhood and the residence of the zamindār of Kangundi, but has been largely depopulated by fever and famine. It lies at the base of a precipitous hill crowned with the ruins of a fort which must have been a place of great strength, much care having been expended in the fortifications. The zamindār's old palace is also an imposing pile of buildings.

Kāveripāk.—A village situated in $12^{\circ} 54' N.$ and $79^{\circ} 28' E.$, in the Wālājāpet tāluk of the North Arcot District, Madras. Population 5,566 (1901). It is known in history as the scene of a great victory by Clive over Rājā Sāhib and his French allies in 1752. It is a flourishing place lying to the south of the embankment of the large tank to which it gives its name. A small fort formerly stood near it but this has been now destroyed. The tank is the most extensive in the District and its embankment is about four miles long. Upon this is built a little bungalow with a pretty view over the water towards the Sholinghur hills. Wild duck and other water-fowl are abundant. The tank, which is fed by a channel from the PALAR, is rarely dry but has much silted up in the course of years.

Māmandūr.—A village in the Arcot tāluk of the North Arcot District, Madras, lying in $12^{\circ} 45' N.$ and $79^{\circ} 40' E.$ Population 1,884 (1901). It is chiefly remarkable for its rock caves. The embankment of the large tank to which the village gives its name rests upon

two low hills and upon the eastern face of the more southerly of these are the excavations. They were probably the work of the Jains and possibly a party of monks from CONJEEVERAM, which is only seven miles distant, may here have hollowed out for themselves a retreat with narrow cells into which each might retire and indulge in uninterrupted meditation.

Padavedu.—A village lying in $12^{\circ} 40' N.$ and $79^{\circ} 7' E.$, in Polūr tāluk of the North Arcot District, Madras. Population 2,382 (1901). This deserted place is one of the most interesting spots in the District. Though it now contains only a few inhabitants, tradition says that it was the capital of a powerful dynasty which many hundreds of years ago held sway in this part of the country. Perhaps it was a chief city of the Kurumbas, who are declared to have been of old a powerful clan. It was sixteen miles in circumference and full of the remains of temples, rest-houses and fine private residences. The extent of the place may be judged by the fact that the present villages of Sandavāsal, where the fair or *sandui* of the old town was held, and Pushpagiri, the site of its flower market, are four miles apart. The place is traditionally declared to have been entombed by a shower of dust and stones which overwhelmed the whole of its magnificent buildings. Jungle has now covered almost the whole area. Two extensive but ruined forts stand upon the plain and another upon a peak of the Javādi Hills which overlooks the village. The two principal temples in Padavedu are dedicated one to a goddess called Renukāmbāl and the other to Rāmaswāmi. The former is the more celebrated and is still visited by large crowds on Fridays in the month of Adi.

Palmaner Village.—Head-quarters of the tāluk of the same name situated in $13^{\circ} 13' N.$ and $78^{\circ} 46' E.$, in the North Arcot District, Madras. Population 4,850 (1901). The place lies on the plateau of Mysore at a height of 2,247 feet above the sea and is much cooler than the lower parts of the District. It has accordingly always been a kind of sanitarium for North Arcot officials and before the route to the Nilgiris was opened up was even resorted to by Europeans from Madras, several excellent bungalows still standing in it. Some of the gorges and valleys in the hills round about it are beautiful. A favourite example is Gangamma's valley where a small stream falls from a height of about 200 feet into a deep pool shut in on all sides but one by high precipitous walls of rock.

Polūr Town.—Head-quarters of the tāluk of the same name in the North Arcot District, Madras, lying in $12^{\circ} 31' N.$ and $79^{\circ} 7' E.$ Population 9,206 (1901). Polūr is situated about two miles from the Cheyyār on its northern bank, and east of some hills. Between these is built the embankment of the Polūr reservoir, which is fed by the waters of the Manjalār. The Sampatgiri hill near by is topped by a holy temple and there is another shrine in the town. A small ruined

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fort without any history stands not far off. The place is poorly built with narrow and ill-arranged streets, but has a brisk trade in grain.

Poini.—A river which rises in the hills of the Chandragiri tāluk of North Arcot District, Madras, in $13^{\circ} 34' N.$ and $79^{\circ} 6' E.$ It flows almost due south and after receiving the waters of numerous smaller streams it finally joins the PALAR not far from ARCOT, after a course of about 45 miles. Its waters are largely used for irrigation and it is crossed by a dam which was built in 1853 and is 792 feet in length from wing to wing. The dam was much damaged in 1874 by the same flood which breached the Pālār dam, and was subsequently reconstructed. During the south-west monsoon, the Poini has a more regular supply of water than the Pālār. The area commanded by the dam is 26,500 acres and of this 22,000 acres were irrigated in 1903-04. The supply might be further increased during the north-east monsoon if the storage capacity of the reservoirs which are fed by it were increased, but during the south-west monsoon all the surplus water running over this dam has to be sent down to the Pālār barrage, where the supply is often deficient.

Punganūru Town.—Head-quarters of the Punganūru tahsīl and zamīndāri in the North Arcot District, Madras, lying in $13^{\circ} 22' N.$ and $78^{\circ} 35' E.$ on a plateau 2,000 feet above the sea. Population 6,353 (1901). The town is prosperous, and owing to its elevation its temperature is much less torrid than that of the lower parts of the District. A large cattle fair is held there in April. The zamīndār kindly sets aside a portion of his palace for the use of European travellers and the building possesses a museum containing among other things a curious collection of life-size models representing natives of various castes in their usual caste costumes. A mile from the town are the ruins of a large Roman Catholic chapel bearing the date 1780.

Rānipet.—Town situated in $12^{\circ} 56' N.$ and $79^{\circ} 20' E.$, in Wāljāpet tāluk of the North Arcot District, Madras, on the north bank of the PALAR river. Population 7,607 (1901). The place comprises the European quarters of ARCOT town, and is said to have been founded opposite Arcot about the year 1771, by Saādat-ullah Khān, in honour of the youthful widow of Desing Rājā of Gingee, who committed *satī* when her husband was slain by Saādat-ullah's forces, and named after her Rānipet or Queen's town. The place was of no importance till it was constituted a British cantonment, when it was made a large cavalry station and rapidly extended. It is now the head-quarters of the Divisional officer. The Roman Catholics and the American Mission have churches in the town. There is a large dispensary, and every Friday a fair is held on the old parade ground north of the town, where a larger number of cattle are brought and sold than in any other market in the District. The Naulākh Bāgh or nine lakh garden of mangoes and other trees, planted by one of the early Nawābs of ARCOT, is near the town.

Sholinghur.—Town situated in $13^{\circ} 7' N.$ and $79^{\circ} 25' E.$, in the Wāḷājāpet tāluk of the North Arcot District, Madras. Population 6,442 (1901). The Sholinghur station on the Madras Railway is $7\frac{1}{4}$ miles from the town. The name is said to be a contraction of the words Chola-linga-puram and to have been given to it because one of the CHOLA kings here found a natural lingam and built a shrine over it called the Choleswara or Sholeswara temple. The town is extensive, and a brisk trade is carried on in its bazars and at its weekly fair. But the place derives its chief importance from its temples. Besides that of Sholeswara, there is another shrine within the town which is dedicated to Bhaktavatsala. This is of fine proportions and is thought to have been built by one of the Vijayanagar kings. The other chief temples lie outside the town. The most celebrated is that of Narasimhaswāmi, situated upon the summit of the loftiest hill in the neighbourhood. From it a magnificent view of the country round, with its reservoirs and fertile cultivation, may be obtained. Upon a lower hill to the east is a temple to Anjaneyaswāmi which, though not so pretentious as its neighbour architecturally, enjoys an equally wide reputation. Women suffering from dementia or hysteria (who are supposed to be possessed by evil spirits) are brought to it to be cured. Another fine shrine lies below the Narasimhaswāmi hill. It is now in ruins, having been struck, it would appear, by lightning, and its finely carved columns lie about in confusion. Very many sacred pools or *tirthams* lie round about Sholinghur, the chief being the Brahma tirtham, in which people bathe on Thursdays. In the neighbourhood of Sholinghur, in 1781, was fought the battle between Coote and Haidar Ali in which the latter lost heavily. Two large Muhammadan tombs by the side of the road on the south of the town mark the spot where the bodies of the slain of the Mysore army were interred in two common graves.

Tirumala (or Upper Tirupati).—TIRUPATI, in the tāluk of Chandragiri in North Arcot District, Madras, is celebrated throughout the Madras Presidency for the temple on Tirumala, the holy hill, which is 2,500 feet high. This part of the place is often known as Upper Tirupati and is six miles distant from Tirupati town and situated in $13^{\circ} 41' N.$ and $79^{\circ} 21' E.$ The shrine is dedicated to Venkateswaraswāmi, an incarnation of Vishnu, and is considered so holy that formerly no Christian or Musalmān was allowed even to ascend the hill. Since 1870, however, European magisterial and police officers go up occasionally on duty and visitors are sometimes also allowed there as a special case, provided that they bring no low caste servants and have obtained the special permission of the District Magistrate and the Mahant or trustee. But no European has ever entered the temple itself and there is no description on record of its interior. From all parts of India thousands of pilgrims annually flock to Tirupati with rich offerings to the idol. Up to 1843 the temple was

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under the management of Government, which derived a considerable revenue from these offerings, but now they are made over to the trustee, known as the Mahant, who is also the head of a religious *math* (or monastery) situated in Tirupati town. During the first six years of British rule the average net annual income of the temple was upwards of two lakhs but the amount is said to have decreased of late. The hill on which the temple stands possesses a number of the usual holy bathing-places, some of which are picturesquely situated.

Tirupati Town.—Town in the Chandragiri taluk of North Arcot District, Madras, situated in 13° 38' N. and 79° 24' E. in the valley, about three miles broad, which divides the Tirupati hills from those of the Kārvetnagar zamindāri. It is a flourishing and busy place containing 15,485 inhabitants and is crowded at all times with pilgrims to the famous shrine on TIRUMALA. The town contains several important temples under the management of the Mahant of this shrine. A municipality was constituted in 1886, and the average municipal receipts and expenditure in the ten years ending 1902-03 were Rs. 39,100 and Rs. 59,700 respectively. In 1903-04 the income, chiefly derived from house and land taxes and water-rate, was Rs. 18,200 and the expenditure Rs. 21,400. The large apparent excess of expenditure over income has been due to the construction of water-works from money previously contributed by Government. The brass industry of the town is well-known and a large encrusted oval tray made here gained a first prize and silver medal at the Delhi Darbār Exhibition of 1903. The wood-carving of the place also deserves mention. A water-supply scheme has been introduced recently and is working satisfactorily.

Tiruttani Village.—Head-quarters of the zamindāri tahsil of the same name in the KARVETNAGAR ZAMINDARI, in North Arcot District, Madras, situated in 13° 11' N. and 79° 37' E. Population 3,697 (1901). It is a station on the Madras Railway. A hill temple in it, dedicated to Subrahmanyaswāmi, one of the sons of Siva, is largely frequented by pilgrims and is held to be next in importance to the famous shrine at TIRUMALA near TIRUPATI.

Vellore Town.—Head-quarters of the taluk of the same name in the North Arcot District, Madras. It lies in 12° 55' N. and 79° 9' E., on the right bank of the PALAR, and its inhabitants number 43,537 (1901), but have decreased somewhat in recent years. It is a station on the Villupuram branch of the South Indian Railway and is four miles from the Kātpādi junction on the south-west line of the Madras Railway, and 87 miles from Madras. Vellore is the largest town in the District and was constituted a municipality in 1866. The average municipal receipts and expenditure in the ten years ending 1902-03 were Rs. 55,100 and Rs. 59,200 respectively. The deficit was met by a loan from Government. The income in

1903-04 was Rs. 72,500 and the expenditure Rs. 65,600; of the former Rs. 17,500 were contributed by Government and an almost equal amount was derived from house and land taxes, and from market fees and tolls. Plans and estimates for a water supply to cost 3½ lakhs are now under scrutiny.

The town is the head-quarters of the Divisional Officer, District Medical and Sanitary Officer, Executive and District Board Engineers, Assistant Commissioner of Salt, Abkāri and Customs, Deputy Inspector-General of Police, Assistant Superintendent of Police and Government Chaplain. It also contains the Police training school, the Arcot Mission College and a high school. There is a large trade in grain and the cultivation of sweet-scented flowers is one of the industries of the place, many bales of these being daily sent by rail to Madras.

The chief object of interest in Vellore is the fort and the temple therein. The former is one of the most perfect specimens of military architecture in southern India, and the latter contains sculptures which by some are thought to rival those of Madura. The fort is declared by local tradition to have been built about 1274 by Bommi Reddi, a refugee chief from Bhadrāchalam on the banks of the Godāvari and handed over to the Rājās of Vijayanagar. In reality, however, it appears to have been constructed not earlier than the 17th century. About the middle of that century the Sultān of Bijapur seized Vellore. In 1676, the Marāthās captured it after four and a half months' siege. In 1708, Daud Khān from Delhi ousted the Marāthās. In 1710, when it was, according to Orme, the strongest fortress in the CARNATIC, it was given by Dost Ali to his son-in-law. The latter's son Murtaza Ali murdered the Nawāb Safdar Ali here in 1741. For more than 20 years the fort was the stronghold of Murtaza Ali, who defied the authority of his lawful chief, the Nawāb of Arcot, and his English allies. Shortly after 1760, Vellore was occupied by an English garrison, and in 1768 it was threatened by Haidar Ali. In 1780, Haidar regularly invested the place, which held out against overwhelming numbers and innumerable difficulties. A dozen times in the course of the siege there was not rice for three days' consumption and all the energies of the Madras Government and of Sir Eyre Coote were directed to throwing in supplies. An assault, which was most gallantly and persistently made, was repulsed and the siege reduced to a blockade which the garrison, although reduced to great straits, withstood for two years, till finally it was raised by the advance of an army from Madras and Haidar's death. In 1791, Vellore was the base for Lord Cornwallis' march on Bangalore. After the fall of Seringapatam (1799), the family of Tipū Sultān were detained here; and to their intrigues is attributed the Sepoy mutiny at Vellore in 1806 when most of the officers and a large number of European soldiers were massacred by

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the native sepoys. The revolt was promptly put down by Colonel Gillespie, who was stationed at Arcot, and the Mysore princes were removed to Bengal.

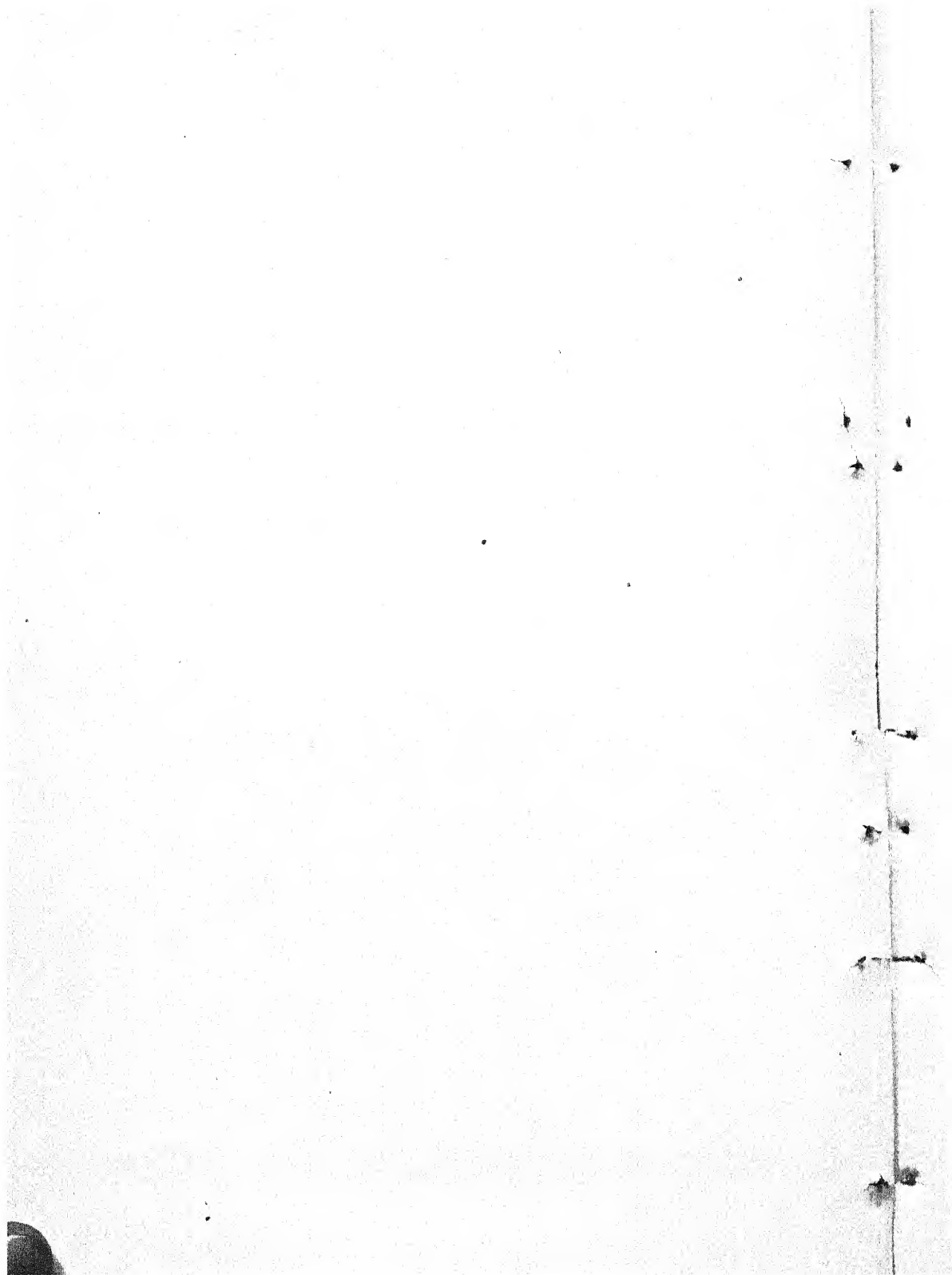
The fort is surrounded by a ditch supplied with water by a subterranean drain connecting it with a large reservoir near the railway-station. The old entrance was by a winding roadway with massive gates protected by a drawbridge; but a straight road has now been cut through the rampart. On the south side a footway also crosses the ditch on a stone causeway. There is no other means of entrance across the ditch. The fort contains a church and several other buildings now occupied by public offices. The temple, formerly used for many years as an arsenal, is a most interesting structure. The best sculpture is found in the porch on the left of the entrance, which contains monolithic pillars of great beauty and delicacy of execution. It is said that the East India Company once proposed to send the building to the Prince Regent to be erected at Brighton.

Walājāpet Town.—The head-quarters of the tāluk of the same name in the North Arcot District, Madras, situated in $12^{\circ} 56' N.$ and $79^{\circ} 22' E.$ It is a decaying place, its population in 1901 (10,067) being less than it was 30 years before. It was constituted a municipality in 1866, and the average municipal receipts and expenditure in the ten years ending 1902-03 were Rs. 14,700 and Rs. 14,400 respectively. In 1903-04, they were both about Rs. 17,000. School fees and the house and land taxes formed the principal sources of income. The town lies 68 miles from Madras and three miles north of the PALAR river, and is remarkably well built and neatly arranged. It was once the trade centre of the District and its decline is due to the opening of the Madras and South Indian Railways, neither of which touches it and both of which have led commerce to other rivals. Weaving in silk, cotton-dyeing, carpet-making and the manufacture of oils chiefly employ the people. The satin cloths of the town are still excellent but the carpets have been spoilt by the introduction of aniline dyes.

Wandiwāsh Village.—Head-quarters of the tāluk of the same name in the North Arcot District, Madras, situated in $12^{\circ} 31' N.$ and $79^{\circ} 36' E.$, nineteen miles from Acharapākkam station on the main line of the South Indian Railway. Population 5,971 (1901). Wandiwāsh is historically interesting as the scene of several important operations in the Carnatic wars of the eighteenth century. The fort belonged to a member of the family of the Nawāb of ARCOT. In 1752 it was attacked by Major Lawrence and in 1757 Colonel Anderson destroyed the town but failed to capture the fort. The French garrison twice in that year repulsed the English. A more energetic attack under Brereton in 1759 was also unsuccessful. Immediately after this the French soldiers mutinied, and, though they were eventually pacified, the fort surrendered to Coote before the end of the year.

In 1760, the French under Lally with 3,000 Marāthās under Bussy appeared before the town and in the pitched battle that ensued the French were utterly routed by Coote, and Bussy was taken prisoner. This victory was in itself and by its consequences the most important ever won over the French in India. In 1780, Lieutenant Flint by a bold stratagem saved the fort from falling into the hands of Haidar Ali, and with very inadequate means held it for nearly three years against every device of the enemy. Twice he was relieved by Sir Eyre Coote and twice at least he repelled most vigorous assaults.

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SALEM DISTRICT.

Salem District.—An inland District in the south of the Madras Presidency, lying between $11^{\circ} 1'$ and $12^{\circ} 54'$ N. and $77^{\circ} 29'$ and $79^{\circ} 2'$ E, with an area of 7,530 square miles. It is bounded on the north by Mysore and North Arcot; on the east by North and South Arcot and Trichinopoly; on the south by Trichinopoly and Coimbatore; and on the west by Coimbatore and Mysore State. It is made up of three distinct tracts of country, which were formerly known as the Bālāghāt, the BARA-MAHAL and the Tālaghāt. The Bālāghāt, consisting of the Hosūr tāluk, is situated on the Mysore table-land and is the most elevated portion of the District, the greater part of it being 3,000 feet above sea-level. The Bāramahāl is the next step in descent, and its extensive plain comprises the Krishnagiri, Dharmapuri, Tiruppattūr and Uttangarai tāluks. Of these, Krishnagiri slopes from 2,000 to 1,300 feet, which is the general level of the other three. An almost unbroken chain of hills, traversing the District a little south of its centre from east-south-east to west-north-west, separates this tract from the Tālaghāt. The latter, comprising Salem, Atūr, Nāmakkal and Tiruchengodu, is, as its name imports, below the Ghāts and descends from a maximum of about 1,200 feet in the Salem tāluk to the level of the plains of the CARNATIC on the east and south. The southern Tālaghāt is marked by three most striking masses of rock, all alike more or less bare of vegetation, namely, the walled and battlemented height of NAMAKKAL, the crescent-topped hill-fortress of TIRUCHENGODU, and the great, square, white mass of SANKARIDRUG. From it, over a saddle on the north-western base of the KOLLAIMALAI, an unsuspected ghāt, guarded by a huge statue of Hanumān, descends into the smiling gardens of Nāmagiripet and RASIPUR. Emerging from this valley, which is shut in by the Bodamalais, one reaches the higher plateau of the northern Tālaghāt, studded from end to end with numerous isolated hills. Particularly striking are the serrated ridge of the KANJAMALAI, outlined sharply against the south-western sky, and the peaks of the Godumalai which rise boldly on the east towards the Atūr

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valley. Much mineral wealth lies hidden in these hills; their iron is exceedingly rich, and valuable beds of white magnesite, which local tradition declares to be the bones of the legendary bird Jatāyu, crop out among the hills on either side of the railway before it enters SALEM, the District head-quarters.

The great mountain screen above referred to, which stretches across the District with the SHEVAROYS as its centre, is pierced by four passes giving access from the Tālaghāt to the Bāramahāl. The easternmost of these is the Kottapatti pass, leading to the village of the same name at the head of a lovely valley stretching away to the historic ghāt of Changama (Chengam), through which flows the trade from the north into the ancient mart of TIRUVANNAMALAI. This Kottapatti pass separates the Tenandamalai from the range of the KALRAYANS. On either side of the Shevaroy's is a ghāt leading to the two great landmarks of the Bāramahāl country. The trunk road over the eastern, or Manjavādi, ghāt passes to the left of the Chittāri hills and winds round Harūr towards the sacred heights of Tirthamalai (3,500 feet). On the west, the railway, toiling up the Morūrpati ghāt, keeps the Vattalamalai to the left and runs past the sharp peak of Mukkanūr (4,000 feet). The westernmost, or Toppūr, pass leads to the rolling downs of Dharmapuri.

On the north-east of the Bāramahāl the JAVADIS hang like a curtain. From the breezy top of Kambugudi (3,840 feet) there is a fine view of the fertile Alangayam valley of which Munro wrote "There is nothing to be compared to it in England, nor, what you will think higher praise, in Scotland." A rifle shot carries across from the Javādis to the Yelagiri, which is more healthy, and deserves to be more popular, than the other minor hill ranges. An extensive view of the whole Bāramahāl country is obtained from this hill. On the right, gleam the graceful white minarets of VANIYAMBADI above the dense, dark groves of cocoa-nut that stretch away on both sides of the PALAR. To the left the great red plain heaves into billows, and its many rocky hills seem to surge against the mountain guard of the Bālaghāt, from which the country rises tier over tier to the Mysore plateau.

The Melagiris, the chief hill range of the Bālaghāt, attain a height of over 4,500 feet at their southern extremity. Sandalwood and valuable timber abound here as well as in the Den-

kanikota jungles. The rolling uplands of the Bālagḥāt or Hosūr tāluk are admirably adapted for pasture, and abundant forage is available at the Cavalry Remount Depôt at Mattagiri, which, with its paddocks and hedgerows and the green lanes between, recalls the familiar features of an English landscape.

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The river systems of Salem are four in number. The chief stream in the District is the CAUVERY, which flows along its western and southern boundaries, separating it from Coimbatore, and is joined by the Sanatkumāranadi, the Sarabḥanganadi, the Tirumanimuttār, the Karuvattār, and the Aiyār rivers. The second system may be called the VELLAR system; to it belong the Vasishtanadi and the Swetanadi, which drain two parallel valleys running east and west in the Atūr tāluk, the former carrying off the drainage of the Kalrāyans and the latter that of the Kollaimalais and PACHAIMALAI. The third system is that of the PONNAIYAR, which flows through the Bālagḥāt and Bāramahāl to the east coast. The last and smallest system is that of the PALAR, which traverses the northern corner of Tiruppattūr.

Varying so considerably in altitude and in rainfall, the District naturally contains a wide range of flora. On the lowest levels are the usual Coromandel plants, while at YERCAUD on the Shevaroys English fruits, flowers and vegetables flourish wonderfully and the wild flora is almost that of zones of heavy rainfall.

Botany.

Geologically, Salem is covered with gneisses and crystalline schists belonging to the older and younger archæans of southern India. The quartz-magnetite schists of the Kanjamalai, Tirthamalai, Kollaimalais and the Javādis, beds of great thickness with an average of 40 per cent. richness in iron, are included in the latter class, and the former is represented by the lower platform of mixed gneisses, chiefly micaceous and hornblendic, partially laid bare in the plains round Salem town. The more massive plutonic archæans associated with the mixed gneisses comprise the charnockite series of granulites, well-developed in the rugged masses of the Shevaroys and elsewhere, on the eastern borders of which occurs a line of exposures of corundum; the biotite gneissose granite of the Bāramahāl, which builds the sharp cones and *droogs* of that country; and the mottled gneiss of Uttangarai. The only rocks of later age than these archæans are a scattered set of younger intrusives of considerable interest

Geology.

SALEM including an enormous number of rock types. Among them are the dunites, the magnesite of the CHALK HILLS and some acid pegmatites containing good mica.

— Fauna. The District is not rich in large game. Tigers and bears are met with in the hills adjoining the Cauvery in Hosūr and Dharmapuri tāluks, and an occasional elephant wanders across from the Coimbatore side. Bears and leopards have been almost exterminated on the Shevaroy's, and deer are now unknown there. The Malaiyālis on all the hill ranges have enormously reduced the quantity of small game; but the jungles in the plains still abound with hares, partridges, quail and spurfowl.

Climate and temperature. In Hosūr, which is on the Mysore table-land, the climate is as pleasant as that of Bangalore; while in the lower Tālaghāt section, the heat is as oppressive as in the adjoining District of Trichinopoly. The mean temperature of Salem town is 82° F. The Shevaroy's from their elevation naturally boast the coolest climate in the District, the thermometer rarely rising above 75° F. in the hottest months. The other hill ranges approach the Shevaroy's in this respect, but they are not free from the drawback of malaria.

Rainfall. The rainfall is fairly evenly distributed through the plains except in the two southernmost tāluks of Nāmakkal and Tiruchengodu, which get an average of only 30 inches as against the District average of 32. The Shevaroy's are quite exceptional and receive nearly double as much as the rest of the District.

Floods on a large scale are unknown. In the autumn of 1874 heavy freshes occurred in the Pālār, washing away the railway line in several places and sweeping away a portion of the town of Vāniyambādi. This disaster was repeated on a larger scale in November 1903, when, owing to the bursting of tanks in Mysore, the river rose even higher than before and two suburbs of the town were completely ruined.

History and archaeology. The District was never an independent political entity. In early times the north of it was ruled by the Pallavas, while the south was included in the Kongu kingdom. In the ninth century A.D., the CHOLA kings annexed the whole of it and subsequently it passed under the Hoysala Ballālas. In the fourteenth century it was conquered by the Hindu kings of Vijayanagar, whose sway was acknowledged till the beginning of the seventeenth century, when the District passed under the Naik rulers

of Madura. From 1652, parts of it began to fall under the power of the rising Hindu dynasty of Mysore till the whole was absorbed by Chikka Deva Rājā, the greatest of them, about 1688-90. In 1760 Haidar Ali usurped the Mysore throne. In 1767 the English reduced portions of the Bāramahāl and carried on, both within and without it, a desultory warfare with Haidar in which the latter had the advantage. By the treaty which concluded the war with Haidar's son Tipū in 1792 the whole District, excepting only the Hosūr tāluk, fell to the Company. After the fall of Seringapatam and the death of Tipū in 1799, the Hosūr tāluk also passed to the English.

The chief objects of antiquarian interest in the District are the old fortresses at KRISHNAGIRI, NAMAKKAL and SANKARIDRUG.

Except Coimbatore, Salem is more sparsely peopled than any other of the southern Districts of the Presidency. Its population in 1871 was 1,966,995; in 1881, 1,599,595; in 1891, 1,962,591; and in 1901, 2,204,974. The decrease of 19 per cent. in 1881 was due to the severity of the great famine of 1876-78; but the recovery was rapid during the ten years ending 1901, the rate of advance being higher than in any District except Kistna. Salem consists of nine tāluks, of which statistical particulars, according to the census of 1901, are appended:—

Tāluk.	Area in square miles.	Number of		Popu- lation.	Popu- lation per square mile.	Percentage of varia- tion in population be- tween 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Hosūr ..	1,217	1	750	184,971	152	18·7	6,656
Krishnagiri ..	659	1	507	175,300	266	15·2	6,198
Dharmapuri ..	941	1	580	206,030	219	15·5	6,336
Tiruppattūr ..	539	2	323	205,986	382	9·1	10,263
Uttangarai ..	910	..	451	159,419	175	15·4	4,814
Salem ..	1,071	2	476	470,181	439	12·7	21,613
Atūr ..	841	1	178	199,475	237	8·9	7,159
Nāmakkal ..	715	2	356	313,895	439	4·6	14,612
Tiruchengodu ..	637	1	166	289,717	455	16·5	7,234
District Total ..	7,530	11	3,782	2,204,974	293	12·4	84,385

SALEM DISTRICT. The head-quarters of these are at the villages and towns from which they are respectively named. The chief of the eleven towns in the District are the three municipalities of Salem, Tiruppattūr and Vāniyambādi. Of the population in 1901, 2,116,768, or 96 per cent., were Hindus; 68,497 were Musalmāns and 19,642 Christians. Tamil is the mother tongue of 71 per cent. of the people and Telugu is spoken by 19 per cent. In Hosūr Kānārese is the vernacular of a considerable proportion.

Their castes and occupations. As elsewhere, agriculture is the predominant occupation. The largest castes are all agriculturists; the most numerous being the Pallis (516,000), Vellālans (396,000) and Paraiyans (185,000). Brāhmans are unusually few, numbering only 15 in every 1,000 of the population, or less than in any area except the three Agencies in the north of the Presidency and the Nilgiris. The shepherd Kurumbans (50,000) and the Kuravans, a wandering people who have a bad name for crime, are more numerous in Salem than in any other District.

Christian missions. Of the total Christian population (19,642) in 1901, 18,701 were natives of India. Of the various sects, the Roman Catholics greatly preponderate, numbering 17,624. The foundation of the Christian Church in the District was laid in 1630 by the celebrated Robert de Nobili. He landed in India in 1606, and, after founding the well-known mission at Madura, turned his steps to the north. He passed by Trichinopoly to SENDAMANGALAM, which was then the capital of a ruler called Rāmachandra Naik who was tributary to the king of Madura. This Chief welcomed the missionary and gave him a site on which to build a church. De Nobili then pushed on to Salem, where after a period of trouble he succeeded in winning over the ruler there, who was also tributary to Madura, in 1630. A church was built in the place about this time. The mission then developed towards the north, and a centre was established at Koilūr in the Dharmapuri taluk. By the middle of the eighteenth century the number of converts had reached a large total, but the suppression of the Jesuits in 1773 checked the advance of Christianity; and when Tipū Sultān ascended the throne of Mysore he ordered the Koilūr church to be destroyed and deported half the Christian population to Mysore, where he sought to convert them forcibly to Muhammadanism. The work however went on in spite of these difficulties, and at the

present day there are Catholic missionaries working in every part of the District.

SALEM
DISTRICT.

Of the Protestant missions the most important is the London Mission, which began work in the District as early as 1827.

Agriculturally, the northern and central sections of the District are generally inferior in soil and situation to the southern or Talaghāt section. The prevailing soil in all taluks is red sand, which occupies as much as 82 per cent. of the whole area. This, however, is not the ordinary barren red sand of Trichinopoly and South Arcot, but is of superior quality and is as good as red loam. The first three months of the year are usually rainless and the fall in April is not great. The May rainfall, the early showers which precede the south-west monsoon, is usually copious and marks the commencement of the cultivation season, which goes on through the south-west monsoon, on which the District mainly depends, and the north-east rains. The months during which the largest sowings are made are July, August and October; but over the greater part of the western taluks a wide area of crop is put in even before June.

General
agricultural
condi-
tions.

A considerable portion of the District is composed of zamindari and inam land, which covers 2,052 square miles out of its total area of 7,530 square miles. Returns are not available for the zamindaris, and the area for which statistics are collected is 5,675 square miles. The following table gives details for 1903-04, areas being in square miles:—

Chief
agricultural
statistics
and
principal
crops.

Taluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irrigated.
Hosūr	873	388	129	228	16
Krishnagiri	377	54	22	226	28
Dharmapuri	738	293	62	289	25
Tiruppattūr	371	159	6	129	17
Uttangarai	764	304	92	280	13
Salem	963	281	28	446	55
Atūr	789	114	122	241	52
Namakkal	374	50	72	210	38
Tiruchengodu	426	13	25	326	52
District Total ..	5,675	1,656	558	2,375	291

SALEM
DISTRICT.

The characteristic food-grains of the District are *rāgi* (*Eleusine coracana*) and *cambu* (*Pennisetum typhoideum*), the former, generally speaking, being most prominent in the northern and central sections and the latter in the southern portion of the District. The area under them in 1903-04 was 431 and 516 square miles respectively. Paddy is grown largely in Nāmakkal and Atūr. The former tāluk contains a large area of plantain and sugar-cane cultivation, and the latter of areca-nut and cocoa-nut. Of special crops, the coffee on the Shevaroy Hills is the most important. It covers an area of 9,000 acres, most of it being grown under European supervision. In Atūr 3,000 acres are occupied by indigo, and in Hosūr tāluk mulberry is grown to a small extent for rearing silk-worms.

Improve-
ments in
agricultu-
ral prac-
tice.

After the great famine of 1876-78 there was a considerable decrease in the area of the holdings in the District, the decline being as much as 20 per cent. Since then, however, the country has rapidly recovered, and the area now occupied is one-fifth more than it was before that famine. No marked improvements can however be said to have been made in the local methods of agriculture. Only in the extension of well irrigation has a real advance been made. In the sixteen years since 1888 nearly 2½ lakhs have been advanced to ryots under the Land Improvement Loans Act, and this has been chiefly laid out in digging or repairing wells.

Cattle,
ponies
and sheep.

Owing to the number of hill ranges and the large area of waste land affording pasture, the District is generally rich in live-stock. This is especially the case in Hosūr, where the climate is favourable to the growth of grass, and almost every ryot keeps attached to his holding a small patch of grass-land which is reserved for pasture. The chief breeds of cattle are three; namely, the Mysore, the Alambādi and Tiruchengodu breeds. The first is raised in the forests bordering on the Cauvery in the Hosūr tāluk, and the second in the forest land of the Pennagaram side of the Dharmapuri tāluk. The bullocks of both these breeds are in much demand for draught, and command good prices at the great cattle fairs of the southern Districts. The cows of the Tiruchengodu breed, though small, are good milkers. The sheep are of the two well-known classes called the Kurumba and the Semmeri. The former is woolly and black or brown; the latter, hairy and reddish in colour. Government encourages pony-breeding by maintaining stallions

at different stations in the District, and there is a Remount Depôt at HOSUR.

SALEM
DISTRICT.

Of the total cultivated area of the ryotwāri and minor inām land, 291 square miles, or 14 per cent., were irrigated in 1903-04. Of this, 122 square miles, or 42 per cent., were supplied from wells; 111 square miles, or 38 per cent., from tanks; and only 44 square miles (15 per cent.) from canals. The Cauvery is of little use for irrigation till it enters the Nāmakkal tāluk. Here three channels of a total length of 49 miles take off from it and convert an area of more than 7,000 acres, which would otherwise be a barren tract, into a fertile area which has with justice been called the garden of the District.

—
Irrigation.

The tributaries of the Cauvery have not the same constant flow as the parent stream, and the land watered by them is liable to failure of crops owing to short supply of water. The Vellār river system in the Atūr tāluk possesses a perennial supply and irrigates an area of 9,400 acres. The Ponnaiyār, with its tributaries, waters 26,000 acres, including both direct and indirect irrigation. Of the 1,842 Government tanks in the District the only one large enough to be worth mention is the Barūr tank fed by the Ponnaiyār, which irrigates about 3,000 acres. Seventy-nine per cent. of the tanks are small reservoirs supplying less than 50 acres each and 32 per cent. of these irrigate less than 10 acres each. In these small works the supply is very precarious and has to be supplemented by wells to enable a wet crop to be raised. Accordingly we find that there are 25,152 wells in wet land in the District, a number larger than that in any other District in the Presidency except North and South Arcot. Wells in dry land are also numerous, numbering 53,878, a figure exceeded only by Coimbatore, North and South Arcot. They are most numerous in the Tālaghāt and least so in the Bālāghāt. The garden land supplied by them is cultivated with great skill and care, and the crops raised are heavier and more valuable than those irrigated by channels or tanks. In the Rāsipur side of the Salem tāluk this garden cultivation is especially excellent.

The chief forests form a horse-shoe belt across the District from west to east, beginning on the mass of hills bordering the Cauvery and thence extending along the Shevaroy's in the centre of the District to the Chitteri and Kalāyan Hills. The Pachai-malais and Kollaimalais form a separate block in the south-eastern

Forests.

SALEM
DISTRICT.

corner of the District. The area of the reserved forests is 1,560 square miles and that of the reserved lands 96 square miles. Sandalwood flourishes on almost every hill range but is most abundant on the Javādis and the Chitteris at an altitude of 2,000 to 3,000 feet. Teak, blackwood (*Dalbergia latifolia*), *acha* (*Hardwickia binata*), *vengai* (*Pterocarpus Marsupium*), *Terminalia tomentosa*, satin wood (*Chloroxylon swietenia*), *Anogeissus latifolia* and other timber trees grow to a moderate size in all the forests, while along the streams in the hills some large specimens of *Terminalia arjuna* are found. At the foot, and on the lower slopes, of all the hill ranges on the eastern side of the District are numbers of tamarind trees growing to a remarkable height and size. The forests within 15 miles of the Madras Railway were until recently worked principally for the supply of fuel for the line. The work in the Forest department has now become so heavy that an additional Forest officer has been posted to the District.

Minerals.

Salem is rich in minerals. Gold, iron, saltpetre, mica, corundum, rubies, magnesite, and crystalline limestone have all been found. Dr. Heyne, an Indian medical officer who toured throughout the country in the early part of the last century, refers to some gold mines at Siddharkovil, a place conjectured to be near Rayakottai. Gold used also to be found at the foot of the Kanjamalai hills, people washing for it in the streams after the rains. No gold in workable quantities is actually found now. Licenses have been taken out for prospecting in the village of Kanavāypudūr in the Salem tāluk and in the Kurumbapatti reserved forests of the Shevaroy Hills, but the search has been without result.

Magnetic iron ore of an excellent quality is found in practically inexhaustible abundance in the District, but the scarcity of cheap fuel prevents its utilisation. The iron beds occur chiefly in five groups; the Kanjamalai group at the hill of the same name, the Godumalai group in the Salem-Atūr valley, the Singipatti group, four miles south of the Godumalai, the Kollaimalai-Talamalai group in the eastern part of the Nāmakkal tāluk, and the Tirthamalai group in the Uttangarai tāluk. In the villages in the vicinity of these beds the ore is smelted in the primitive Indian fashion, but not to the same extent as formerly when there was no competition from English wrought iron. Salem iron was famous in the early years of the last century, and a

Company known as the Porto Novo Iron Company worked the ores on the Kanjamalai hills at foundries established at PORTO NOVO in South Arcot and at Pulampatti, a place on the Cauvery in the Tiruchengodu taluk. As the jungles diminished, charcoal for smelting had to be brought from long distances, and the working expenses became too heavy to allow of any profit being realised. The Company finally ceased to exist about 1867. At present two firms hold prospecting licenses for the Kanjamalai iron, but nothing has yet been done to develop it.

Saltpetre gives work to three refineries at Mohanūr in the Nāmakkal taluk. Mica-mining operations were conducted for a short time in the villages of Chinnamanali and Cholasiramani, but have ceased. Corundum is extracted under a mining lease at Komārapālaiyam, in the Nāmakkal taluk. In a number of other villages also corundum is found, and the right to quarry for it is annually leased out by auction. Along with the corundum, rubies are sometimes discovered. Magnesite is being extracted under a mining lease in five Government villages and one jāgīr village in Salem taluk. The area leased is 1,131 acres, and in 1904 the outturn was 174 tons in Government land and 1,141 tons in jāgīr land.

The chief industry in Salem is weaving, which is carried on in every town or village of any importance. Pure silk cloths and good white cloths with silk borders are woven, especially in Salem town, and exported to other Districts. Salem cloths are known throughout the Presidency. The industry is now on the decline owing to the competition of English machine-made goods. Kurumbas or shepherds weave coarse blankets from sheep's wool all over the District, and a superior variety of these articles is manufactured at Lattivadi in the Nāmakkal taluk. Indigo is manufactured in 55 factories in Atūr and two in Tiruppattūr. Several tanneries for the curing of hides exist in Tiruppattūr, Vāniyambādi and elsewhere. The latter town is indeed a centre of the Labbais, a mixed race of Musalmāns who do most of the skin trade in the Presidency. Potstone utensils are made in Omalūr in Salem taluk.

Arts and
Manufac-
tures.

Rice, wheat, castor-oil seed, castor-oil, ghi, cloth, betel leaves, plantains, areca-nut, indigo, tamarind, mangoes, and cattle are among the chief exports of the District. Salt, pepper, tobacco, areca-nut, yarn and ground-nut are some of the principal articles imported. Cattle are marched from

Com-
merce.

SALEM DISTRICT. Hosūr and Dharmapuri to the great cattle markets in the South Arcot, Trichinopoly, Madura and Tinnevely Districts. The mangoes go to Madras and Bombay (where they are sold as Bombay mangoes) ; and betel leaves and plantains are sent to the same places. The internal trade of the country is carried on at the weekly markets, which are held at most of the large villages and are quite a feature of social life in this District. They are usually managed by the local boards, which in 1903-04 collected Rs. 15,800 at them in the shape of fees.

Railways and Roads. The south-west line of the Madras Railway enters the District near Vāniyambādi and runs through it to the Cauvery, which it crosses by a fine bridge near Erode. A narrow gauge ($2\frac{1}{2}$ feet) railway between Morappūr and Dharmapuri is under construction, and a similar line between Tiruppattūr and Krishnagiri has recently been opened. The District has the largest mileage of roads (2,020 miles) in the Presidency except Coimbatore, but only 582 miles are metalled. There are avenues along 1,311 miles of road, which are managed by the local boards.

Famine. During the last century the District experienced two famines, in 1833 and 1876-78, and serious scarcity in 1866 and 1891-92. The most terrible calamity was the famine of 1876-78, and during its height as many as 369,137 of the population were being gratuitously fed. The expenditure on relief works was 28 lakhs, on gratuitous relief 32 lakhs, and the indirect expenditure and loss of revenue amounted to a further sum of $8\frac{1}{2}$ lakhs.

District sub-divisions and staff. The District is arranged into four administrative sub-divisions, two of which are usually held by members of the Indian Civil Service and the other two by Deputy Collectors appointed in India. These are Hosūr, comprising the Hosūr, Krishnagiri and Dharmapuri tāluks ; Tiruppattūr, made up of Tiruppattūr and Uttangarai ; Nāmakkal, consisting of Nāmakkal and Tiruchengodu ; and Salem, which includes Salem and Atūr. A tahsildār is in charge of each tāluk, but in only four tāluks is there a stationary sub-magistrate to do magisterial work, which in the other five is entrusted to a sheristadār magistrate. Ten deputy tahsildārs are subordinate to the tahsildārs. There is the usual staff of superior officers, with the addition of the second District Forest officer already mentioned.

Civil justice is administered by the District judge, aided by a Sub-Judge who sits for part of the year at Salem, and by

five District Munsiffs. Criminal justice is dispensed by the Sessions Court, the divisional magistrates (who have the usual first-class powers) and the subordinate second-class magistrates. Much of the crime is committed by the Pallis and the Kuravans already referred to. Dacoity has been more than usually prevalent of late.

SALEM
DISTRICT.

—
Civil Jus-
tice and
Crime.

The land revenue history of the Salem District is of considerable interest, as the beginnings of the ryotwāri system were evolved here. The old native method was to rent out the country by villages or other small areas to the village headmen or other lessees. Captain Read, the first Collector of the District, took charge in 1792. Government instructed him to effect a settlement for a term of five years with the inhabitants themselves. To do this, Read, with the co-operation of his Assistants, Graham and Munro, surveyed all the land in the District and fixed a money assessment on the fields, the operations being completed in five years (1793-97). During the time the survey was in progress a change had come over Read's opinions; and, on the 10th December 1796, he issued his famous order which gave ryots the option of holding their land either under the old lease system or under annual settlements, the latter mode allowing them to give up early in each year whatever land they might not care to cultivate that year and to retain for any length of time such land as they wished, subject to the payment of assessment for it. This was the germ of the ryotwāri system, but the revenue system of Bengal, where Lord Cornwallis had introduced Permanent Settlement, was extended to Madras by the Government of India. In 1802 Read's ryotwāri settlement was cancelled by the appointment of a special commissioner, who, in the next three years, parcelled out the District into 205 *mittahs* (estates), to be sold at auction to the highest bidders to be held on fixed rents. This zamīndāri system was a failure. Owing to the high rates at which the rents were fixed and the low margin of profit remaining to the *mittahdārs*, the sums payable by them fell into arrear, their *mittahs* were in consequence seized and sold, and for want of other bidders Government had to buy them in. The estates thus broken up were then administered under the ryotwāri system. The evil of excessive assessments was partially reduced by orders issued in 1816 and 1818, but systematic reduction was effected only in 1859 when the Government sanctioned proposals of the Collector for a percentage abatement in the old rates. The

Land
Revenue
adminis-
tration.

SALEM
DISTRICT.

reduction gave a wonderful impetus to cultivation and the land revenue rose with a bound. In 1860 a scientific survey of the District was begun and in 1871 a new revenue settlement was inaugurated. The survey showed that the extent of holdings in the old accounts had been understated by 15 per cent., and the settlement resulted in an increase of revenue amounting to 4 per cent. The average assessment per acre on wet land was Rs. 3-15-1 in the north of the District and Rs. 5-1-9 in the south, the maximum being Rs. 10-8-0 and the minimum R. 1-4-0. On dry land the average assessment was R. 0-14-5 in the north and R. 1-5-6 in the south, the maximum being Rs. 5 and the minimum as 4 per acre. This settlement is just being revised in five taluks by a re-survey and a re-settlement. The revenue from land and the total revenue in recent years are given below in thousands of rupees:—

—		1880-81.	1890-91.	1900-01.	1903-04.
Land revenue	..	2,540	2,670	2,784	2,901
Total revenue	..	3,150	3,909	4,567	4,939

Local
boards.

The local affairs of the District are managed by a District board and four taluk boards, the jurisdictions of the latter corresponding to the four revenue sub-divisions above mentioned. The expenditure of these bodies in 1903-04 was Rs. 4.27 lakhs. The chief items of expenditure were roads and buildings, 1.85 lakhs; education, Rs. 71,000; and medical services, 1.30 lakhs. The chief source of income was, as usual, the land-cess. The towns of Salem, Tiruppattūr and Vāniyambādi are municipalities and are excluded from the control of the boards. The number of Unions is 34.

Police and
Jails.

The police force is managed by a District Superintendent aided by an Assistant. There are 102 police-stations and the force numbered in 1904, 1,285 constables and head constables working under 21 inspectors and 2,475 rural police. Besides the Salem jail, which is one of the seven Central prisons of the Province and can hold 548 convicts, there are 18 subsidiary jails, which can collectively accommodate 201 male and 118 female prisoners.

In education Salem is very backward. The proportion of the people in the District who can read and write is scarcely more than half the average for the southern Districts as a whole, and the only areas in the Madras Presidency which at the census of 1901 contained a smaller percentage of literate persons were Vizagapatam and the three Agency Tracts. Of every 1,000 persons in the District, only 38 were classed as literate. The number of literate persons among the males and females of the District amounted to 74 and four per thousand respectively. Only 5 per cent. of the males had received any education in English, and the number of girls (including all the Europeans and Eurasians) who could read and write that language was only 500. Education was most advanced in Tiruppattūr, Salem and Nāmakkal tāluks, and least so in Uttan-garai and Tiruchengodu. The total number of pupils under instruction in 1880-81 was 9,316; in 1890-91 it was 23,171; in 1900-01, 31,976; and in 1903-04, 31,231. The number of educational institutions of all kinds in the District in 1904 was 972, of which 847 were public and the remainder private. Of the former eleven were managed by the Educational department, 197 by the local boards and 26 by the municipalities, while 288 were aided from local funds and 325 were unaided. These institutions included the municipal college at Salem, 25 secondary, 818 primary, and three training and other special schools. The number of girls reading in these was 4,023. As usual, the majority of the pupils were only in the primary classes. Of the male population of school-going age 15 per cent. were in the primary stage of instruction, and of the female population of the same age 2 per cent. The corresponding percentages for Musalmāns were 72 and 12. Panchama pupils numbering 1,344 were being educated in 51 schools maintained specially for them. The total expenditure on education in 1903-04 was Rs. 1,73,000 of which Rs. 69,000 was derived from fees. Of this, 71 per cent. was devoted to primary education.

The District possesses 11 hospitals and 15 dispensaries, with accommodation for 114 in-patients. In 1903, 203,000 cases, of which 1,400 were those of in-patients, were treated, and 7,100 operations were performed. The expenditure was Rs. 56,000 and was met chiefly from local and municipal funds.

In 1903-04 the number of persons successfully vaccinated was 27 per thousand of the population, the mean for the

SALEM
DISTRICT.
—
Educa-
tion.

Hospitals
and dis-
pensaries.

Vaccina-
tion.

SALEM
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Presidency being 30. Vaccination is compulsory in all the municipalities and Unions and in the village of Komārapalaiyam in the Tiruchengodu tāluk.

H. LeFanu, District Manual, 1883.

Hosūr Sub-division.—A sub-division of the Salem District of the Madras Presidency consisting of the HOSUR, KRISHNAGIRI and DHARMAPURI tāluks.

Hosūr Tāluk.—The northernmost tāluk of the Salem District, Madras Presidency, lying between $12^{\circ} 9'$ and $12^{\circ} 54'$ N. and $77^{\circ} 29'$ and $78^{\circ} 16'$ E., and covering an area of 1,217 square miles. The northern and western portions are on the high level of the Mysore plateau, and form a bare and uninteresting tract. In the south and east the country is full of beauty, being a series of plateaux sustained by lines of forest-clad hills and sinking by rapid descents down to the valley of the sacred CAUVERY. The tāluk is the most thinly peopled portion of the District; but at the census of 1901 it contained a population of 184,971 against 155,768 in 1891, the increase being the most rapid in the District and at the rate of nearly 19 per cent. Much of the country is covered with jungle and is the rearing ground of the so-called Mysore breed of cattle. The climate on the Mysore table-land is cool and pleasant and resembles that of Bangalore. The tāluk contains one town, HOSUR, its head-quarters and the chief town of the sub-division, which has a population of 6,695. The number of villages is 750. The land revenue and cesses demand of the tāluk for 1903-04 was Rs. 2,49,000.

Krishnagiri Tāluk.—Tāluk of the Salem District, Madras Presidency, lying between $12^{\circ} 14'$ and $12^{\circ} 43'$ N. and $77^{\circ} 58'$ and $78^{\circ} 30'$ E., with an area of 659 square miles. It is situated in the borderland between the Mysore plateau and the great plains of the Carnatic and is encircled by hills the summits of which are often crowned by ancient fortresses. The tāluk is traversed by numerous streams which take their rise in the surrounding hills and flow into the PONNAIYAR river. In 1891 it contained 152,128 inhabitants and in 1901 175,300. It possesses one town, KRISHNAGIRI, its head-quarters, inhabited by 10,446 people, and 507 villages. The land revenue demand, including cesses, in 1903-04 was Rs. 2,25,000.

Dharmapuri Tāluk.—Tāluk of the Salem District, Madras Presidency, lying between $11^{\circ} 54'$ and $12^{\circ} 27'$ N. and 77°

41' and 78° 18' E., and enclosing an area of 941 square miles. The CAUVERY river bounds it on the west and is joined by the Sanatkumāranadi, which flows through the north-western portion of the taluk. Near the junction of these rivers are the falls of Hogenakal or the smoking rock. The taluk contained a population of 206,030 in 1901 as against 178,442 in 1891. The only town is DHARMAPURI, which is its head-quarters and contains 8,102 inhabitants. There are 580 villages besides. The land revenue and cesses demand of the taluk for 1903-04 was Rs. 2,54,000. SALEM DISTRICT.

Tiruppattūr Sub-division.—A sub-division of the Salem District of the Madras Presidency consisting of the TIRUPATTUR and UTTANGARAI taluks.

Tiruppattūr Taluk.—Taluk of the Salem District, Madras Presidency, lying between 12° 17' and 12° 47' N. and 78° 24' and 79° 2' E., and comprising an area of 539 square miles. The lower portion of it is composed of four valleys of varying size. The largest of the four is the bare southern stretch of country through which the Pambār glides. This is in striking contrast to the second, the rich valley of the PALAR, thickly wooded with cocoa-nut groves with here and there a patch of corn-fields. Quite different features are presented by the other two valleys, the rugged Vellakuttai hollow lying between the triangular-shaped Yelagiris and the hog-backed Nekkananamalai; and the fertile Alangayam basin, bounded on the west by the Yelagiri and on the east by the picturesque JAVADIS. This last is the fairest of all the valleys in the District, and its beauty and luxuriance won the special affections of Munro when he served in Salem. Tiruppattūr had a population of 205,986 in 1901 as against 188,825 in 1891. It contains two towns of considerable commercial importance, namely, TIRUPATTUR, the head-quarters of the taluk and sub-division, with a population of 18,689 and VANIYAMBADI, the station of a deputy tahsildār, population 12,005. These two towns include a large Muhammadan community, and the taluk contains the largest number of the followers of that faith in the District. There are 323 other villages. The land revenue and cesses demand in 1903-04 amounted to Rs. 2,00,000.

Uttangarai.—Taluk in the centre of the Salem District, Madras Presidency, lying between 11° 47' and 12° 25' N. and 78° 13' and 78° 44' E., and extending over an area of 910 square

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miles. Next to Hosūr it is the most thinly peopled tract in the District, the population being 159,419 in 1901 as against 138,113 in 1891. The taluk generally has a bad name for malaria. The head-quarter station of Uttangarai is an insignificant village with a population of 1,073. There are 450 other villages besides. The land revenue and cesses demand of the taluk was Rs. 2,07,000 in 1903-04.

Salem Sub-division.—A sub-division of the Salem District of the Madras Presidency consisting of the SALEM and ATUR taluks.

Salem Taluk.—Taluk of the Salem District, Madras Presidency, lying in the centre between $11^{\circ} 23'$ and $11^{\circ} 59'$ N. and $77^{\circ} 46'$ and $78^{\circ} 29'$ E., and containing an area of 1,071 square miles. The greater part of it is composed of a series of valleys from five to twelve miles wide shut in by lofty ranges of hills, the chief being the SHEVAROYS, on which stands the sanitarium of YERCAUD, the Toppūr hills, and the Tenandamalai on the north, which separate the taluk from the BARAMAHAL. The chief river is the Tirumanimuttār, which rises in the Shevaroyes and flows through the town of Salem to Tiruchengodu and on to Nāmakkal, where it enters the CAUVERY. But the mainstay of irrigation in the taluk is the wells sunk by the ryots themselves, which are more numerous here than in any other portion of the District. The taluk had a population of 470,181 at the 1901 census as against 417,379 in 1891. It contains two towns, SALEM, population 70,621, the head-quarters of the taluk and District, and RASIPUR, population 11,512, the head-quarters of a deputy tahsildār. There are 476 villages. The taluk is rich in minerals, containing the famous iron deposits of KANJAMALAI and the magnesite of the CHALK HILLS. The land revenue and cesses demand in 1903-04 was Rs. 6,41,000.

Atūr Taluk.—Taluk in the Salem District, Madras Presidency, lying between $11^{\circ} 19'$ and $11^{\circ} 53'$ N. and $78^{\circ} 16'$ and $78^{\circ} 51'$ E., with an area of 841 square miles. The western part is broken by numerous rocks and hills; but the east is a wide undulating plain, separated by the valleys of the Vasish-tanadi and Swetanadi rivers from the mountain ranges of the Tenandamalai and KALRAYANS on the north and the KOLLAIMALAI and PACHAIMALAI on the south. The valley irrigated by these rivers is a rich tract of country, and the luxuriant groves of areca-palms are a striking feature

of the river banks. The population of the taluk in 1901 was 199,475 as against 183,209 in 1891. The only town is ATUR, the head-quarters, population 9,673, while there are 173 villages. The land revenue and cesses demand in 1903-04 was Rs. 3,17,000.

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Nāmakkal Sub-division.—A sub-division of the Salem District of the Madras Presidency consisting of the NAMAKKAL and TIRUCHENGODU taluks.

Nāmakkal Taluk.—Taluk in Salem District, Madras Presidency, situated between $11^{\circ} 1'$ and $11^{\circ} 25'$ N. and $77^{\circ} 51'$ and $78^{\circ} 30'$ E., with an area of 715 square miles. It is the most southerly taluk of the District and lies lower than the others, forming a wide plain broken on the north and east by the great range of the KOLLAIMALAIS. The CAUVERY skirts it and encircles a small tract of country, which, with its flourishing groves of plantains, betel-vines, and cocoa-nut palms, its sugarcane and green expanses of paddy, rivals in richness the delta land of Tanjore. The population in 1901 was 313,895 as against 300,047 in 1891. There are two towns, NAMAKKAL, population 6,843, and SENDAMANGALAM (13,584), and 356 villages. The land revenue and cesses demand of the taluk in 1903-04 was Rs. 4,47,000.

Tiruchengodu Taluk.—Taluk in the south-west corner of the Salem District, Madras Presidency, lying between $11^{\circ} 15'$ and $11^{\circ} 45'$ N. and $77^{\circ} 41'$ and $78^{\circ} 12'$ E., and covering an area of 637 square miles. As compared with the rest of the District it is exceptional in its configuration, being a hot glaring plain, the monotonous aspect of which is relieved only by the hill-fortresses of TIRUCHENGODU and SANKARI-DRUG and the silver thread of the CAUVERY which winds to the west and south. The Tirumanimuttar and Sarabhangannadi are the chief rivers, but the cultivation is mostly unirrigated and the taluk is liable to attacks of scarcity. The population, living in one town and 166 villages, was 289,717 in 1901, and is the densest in the District, numbering 455 to the square mile. In 1891 it was 248,679. Tiruchengodu, population 8,196, is the head-quarters of the taluk. The land revenue and cesses demand of 1903-04 was Rs. 4,88,000.

Atūr Town.—Head-quarters of the taluk of the same name in the Salem District of the Madras Presidency, situated in $11^{\circ} 35'$ N. and $78^{\circ} 37'$ E., on the river Vasishtanadi about three miles from the foot of the KALRAYAN HILLS. Popu-

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lation 9,673 (1901). North of the town is the old fort where the famous 18th century chieftain Ghetti Mudaliyār is said to have lived in royal state, and where subsequently the English troops were in garrison. Commanding, as it did, the pass from Salem to SANKARIDRUG, this post was of importance in the wars with Haidar Ali. It was captured by the British in 1768, after the surrender of Salem; and during the war with Tipū was again occupied by British troops. Indigo is manufactured in the place, which is also known for the carts which are made there.

Chalk Hills.—Lying in Salem taluk, Salem District, Madras Presidency, between $11^{\circ} 42'$ and $11^{\circ} 47'$ N. and $78^{\circ} 7'$ and $78^{\circ} 12'$ E. The name given to a barren tract of slightly hilly ground north and north-west of Salem town. Over the greater part of this area the surface is whitened by numerous veins of magnesite, the white colour of which has given the locality its name. The magnesite deposits cover about 12 square miles, stretching from a little west of the railway north-eastward to the foot of the SHEVAROYS. They are said to be the largest of the small number of such deposits which are known, and are now being worked.

Dharmapuri Town.—Head-quarters of the taluk of the same name in the Salem District, Madras Presidency, situated in $12^{\circ} 8'$ N. and $78^{\circ} 10'$ E. It is connected by a road 18 miles long with the Morappūr station on the Madras Railway, and will shortly be linked to it by a narrow gauge (2 feet 6 inches) railway. Population 8,102 (1901). The town was for some years the residence of the famous Major (afterwards Sir Thomas) Munro. He planted a fruit garden there and constructed a square stone tank, and speaks very affectionately of the place in his letters. The only trade of Dharmapuri is in skins. An old fort in the town played some part in the wars of this part of the country but is now overgrown with prickly pear.

Hosūr Town.—Head-quarters of the taluk and sub-division of the same name in the Salem District, Madras Presidency, situated in $12^{\circ} 44'$ N. and $77^{\circ} 50'$ E. The nearest railway-station is Mālūr on the Bangalore branch of the Madras Railway, $20\frac{1}{2}$ miles distant by a good road. It is also easily accessible from Bangalore, 24 miles off. Population 6,695 (1901). To the west of the town is an old fort, mentioned frequently in the history of the wars with Tipū Sultan, and supposed to have been built

for Tipū by an English engineer named Hamilton. He and two other prisoners were barbarously beheaded on the approach of Lord Cornwallis' army in 1791. The Divisional officer's bungalow is a well-known building. It is locally called the Castle, and was built at a great cost by a former Collector, Mr. Brett (1859-62), when Hosūr was the head-quarters of the District. It is in the style of an English mediæval castle, with turrets, battlements, a moat and so forth. It was purchased by Government in 1875 for Rs. 10,000.

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Four miles south of the town, at Mattagiri, is the Hosūr Remount Depôt, from which the Ninth Division of the Army in India is supplied with cavalry and artillery horses. This dates from 1828 and is in charge of a British officer assisted by a subaltern of the Army Veterinary department. The greater part of the horses are Australian animals bought from the importers at Madras. They are acclimatized and broken to their work at the Depôt. The place has a wonderfully English appearance, the grassy paddocks being surrounded with post-and-rail fences and entered by gates of familiar pattern, and much of the work on the farm is done by horses instead of bullocks.

Jalārpet.—Village in the Tiruppattūr taluk, Salem District, Madras Presidency, lying in $12^{\circ} 35'$ N. and $78^{\circ} 34'$ E. Population 2,051 (1901). It is of importance owing to its railway-station, which is the junction of the south-west line of the Madras Railway with the Bangalore branch. Of late years it has also been the station at which passengers proceeding towards Madras have been examined to make sure that they are free from plague. Distance from Madras 132 miles, from Bangalore 87 miles.

Kalrāyan Hills.—These hills lie partly in the Atūr taluk of the Salem District and partly in the South Arcot District of the Madras Presidency, and run between $11^{\circ} 38'$ and $12^{\circ} 4'$ N. and $78^{\circ} 28'$ and $78^{\circ} 49'$ E. They stand east of the Tenandamalai, being separated from it by the Kottapatti valley, and are perhaps the largest of all the hill ranges in the Salem District in superficial extent. Different portions of the range have different local names, but the principal divisions are the Periya (big) Kalrāyans, which attain an elevation of 4,300 feet, and the Chinna (little) Kalrāyans reaching to little beyond 3,000 feet. The sacred pagoda of Kari Raman

SALEM DISTRICT. is situated in the Periya Kalrāyans, and is held in great reverence by the Malaiyālis who inhabit these hills. The range is parcelled out into five jāgirs or estates, and the owners of these govern their tenants in a curiously primitive and patriarchal fashion. The fever on the range is so dreaded that few of the dwellers on the plains ever go up it, and consequently the people have retained many odd customs which differ from those of the low country. They are exclusively of the caste known as Malaiyālis; but there is no doubt that they are not a distinct race, but merely Tamils who at some remote period took refuge in these hills from the troublous times through which the plains were passing.

Kanjamalai.—A hill in the Salem taluk and District of the Madras Presidency, situated in $11^{\circ} 37' N.$ and $78^{\circ} 4' E.$, and 3,238 feet in height. It is a conspicuous object in the Salem landscape with its hog-backed shape and its serrated ridges, and is widely known for its rich stores of magnetic iron ore. There are five separate beds of this and the supply is almost inexhaustible. It often contains as much as 40 per cent. of iron. Vast quantities of the ore of these beds have rolled down the sides of the hill, especially to the south, where not only does the extensive talus consist mainly of it, but the fields of one or two miles from the hill are thickly strewn with rolled fragments of it of all sizes. The Kanjamalai iron was the source of supply of the ill-fated Porto Novo Iron Company, which erected blast furnaces at PORTO NOVO in the early years of the last century but eventually collapsed. Since then no mining has been done here. Two firms hold licenses to prospect in the hill, but no definite steps have yet been taken to extract any ore. At the foot of the hill is the famous temple of Siddharkovil.

Kāveripatnam.—Village in the Krishnagiri taluk, Salem District, Madras Presidency, situated in $12^{\circ} 26' N.$ and $78^{\circ} 13' E.$ Population 4,954 (1901). It is seven miles distant from KRISHNAGIRI and is situated on the right bank of the PONNAIYAR. The place was regarded as of some strategical importance in the Mysore wars, as it commanded the entrance to Dharmapuri taluk and the CARNATIC, and was strongly fortified. In 1767 the English captured it from Haidar Ali but the latter almost immediately recaptured it and used it as a support in the next campaign until his

withdrawal above the Gbāts. Col. Wood then took the place, and in 1790 Col. Maxwell made it his head-quarters before advancing against Tipū. SALEM
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Kollaimalais.—Hill range in the Nāmakkal and Atūr tāluks, Salem District, Madras Presidency, standing between $11^{\circ} 10'$ and $11^{\circ} 27'$ N. and $78^{\circ} 18'$ and $78^{\circ} 30'$ E. Unlike the SHEVAROYS, the Kollaimalais rise abruptly from the plains, and present the appearance of a flat-topped mass of mountain. But far from being a level plateau, the upper surface is cut up by numerous deep and narrow valleys, which render the scenery all along the seventeen miles of its length variegated and picturesque. From the bold crag which rises on the north to a height of over 4,000 feet and overlooks the fertile plains of Atūr, the eye travels over long, gently-sloping, sheltered glades down its north-east flank and rests on the concentric terraces of vivid green in the basin below. Further south, across ridges whose sides are furrowed by deep ravines, by grassy meadows dotted with the glossy jack and the tall sago, along rocky passes and narrow defiles and wooded glens, is seen the great gorge which opens from the central basin towards the Turaiyūr valley, and at its head the shrine in Valapurnād where Arapileswaran presides over the clear waters of the Aiyūr before they descend precipitously into the low country at Puliyanjolai. Near the high ridge at the southern extremity, commanding a vast view of the CAUVERY in the foreground and of the distant ANAIMALAIS and the PALNIS beyond, are the ruins of an old bungalow testifying to the evil reputation for malaria which the Kollaimalais have long (but perhaps not altogether deservedly) enjoyed among European settlers. The population of the hills consists chiefly of the same Malaiyālis who dwell on the Shevaroyes, the PACHAIMALAIS and the KALRAYANS. They cultivate considerable areas, but have ruined the forests, which were formerly of value, by promiscuous felling.

Krishnagiri Town.—Head-quarters of the tāluk of the same name in the Salem District, Madras Presidency, lying in $12^{\circ} 31'$ N. and $78^{\circ} 13'$ E. Population 10,446 (1901). It is connected with Tiruppattūr on the Madras Railway by a road 24 miles long, and by a narrow gauge (2 ft. 6 in.) railway. The town consists of Krishnagiri proper, the old town, and a new suburb called Daulatābād, where the Government offices are situated.

KANJAMALAI.

SALEM DISTRICT. is situated in the Periya Kalrāyans, and is held in great reverence by the Malaiyālis who inhabit these hills. The range is parcelled out into five jāgirs or estates, and the owners of these govern their tenants in a curiously primitive and patriarchal fashion. The fever on the range is so dreaded that few of the dwellers on the plains ever go up it, and consequently the people have retained many odd customs which differ from those of the low country. They are exclusively of the caste known as Malaiyālis; but there is no doubt that they are not a distinct race, but merely Tamils who at some remote period took refuge in these hills from the troublous times through which the plains were passing.

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withdrawal above the Ghāts. Col. Wood then took the place, and in 1790 Col. Maxwell made it his head-quarters before advancing against Tipū. SALEM
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Kollaimalais.—Hill range in the Nāmakkal and Atūr tāluks, Salem District, Madras Presidency, standing between $11^{\circ} 10'$ and $11^{\circ} 27'$ N. and $78^{\circ} 18'$ and $78^{\circ} 30'$ E. Unlike the SHEVAROYS, the Kollaimalais rise abruptly from the plains, and present the appearance of a flat-topped mass of mountain. But far from being a level plateau, the upper surface is cut up by numerous deep and narrow valleys, which render the scenery all along the seventeen miles of its length variegated and picturesque. From the bold crag which rises on the north to a height of over 4,000 feet and overlooks the fertile plains of Atūr, the eye travels over long, gently-sloping, sheltered glades down its north-east flank and rests on the concentric terraces of vivid green in the basin below. Further south, across ridges whose sides are furrowed by deep ravines, by grassy meadows dotted with the glossy jack and the tall sago, along rocky passes and narrow defiles and wooded glens, is seen the great gorge which opens from the central basin towards the Turaiyūr valley, and at its head the shrine in Valapurnād where Arapileswaran presides over the clear waters of the Aiyār before they descend precipitously into the low country at Puliyanjolai. Near the high ridge at the southern extremity, commanding a vast view of the CAUVERY in the foreground and of the distant ANAIMALAIS and the PALNIS beyond, are the ruins of an old bungalow testifying to the evil reputation for malaria which the Kollaimalais have long (but perhaps not altogether deservedly) enjoyed among European settlers. The population of the hills consists chiefly of the same Malaiyālis who dwell on the Shevaroyes, the PACHAIMALAIS and the KALRAYANS. They cultivate considerable areas, but have ruined the forests, which were formerly of value, by promiscuous felling.

Krishnagiri Town.—Head-quarters of the tāluk of the same name in the Salem District, Madras Presidency, lying in $12^{\circ} 31'$ N. and $78^{\circ} 13'$ E. Population 10,446 (1901). It is connected with Tiruppattūr on the Madras Railway by a road 24 miles long, and by a narrow gauge (2 ft. 6 in.) railway. The town consists of Krishnagiri proper, the old town, and a new suburb called Daulatābād, where the Government offices are situated.

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This last was built under the auspices of Munro and Graham, the first Assistant Collectors of the District; the present public bungalow was at that time their residence. The town is commanded by a precipitous and almost inaccessible hill-fort rising 800 feet above it. Such were its capabilities for defence, that it was never carried by assault. In 1767, and again in 1791, British troops attempted it unsuccessfully, and on several occasions during our operations against Mysore it was necessary to blockade or mask it. In 1768 it surrendered to a blockading force, and was held by a British garrison for some years until restored by treaty. Grapes of an excellent quality are produced in the town and its neighbourhood.

Nāmakkal Town.—Head-quarters of the taluk and subdivision of the same name, Salem District, Madras Presidency, situated in 11° 14' N. and 78° 10' E. It stands on the Salem-Trichinopoly road at a distance of 31 miles from Salem, the nearest railway-station, Karūr on the South Indian Railway, being 20 miles off. Population 6,843 (1901). The town is famous for its temple of Nāmagiri Amman built at the base of the Nāmakkal rock, a great rounded mass of gneiss about 200 feet high, crowned by a hill-fort visible for miles round and easily distinguished from the surrounding hills by its white colour. The battlements are still in perfect preservation, being made of well-cut blocks of the same stone as the hill itself and secured to the rock by mortar. No mortar has been used in the higher courses, which hold together solely by their own weight and accurate fitting. Besides the fort, a Hindu temple and a Muhammadan flagstaff stand on the top of the rock. The building of the fortress is ascribed by some to Rāmachandra Naik, poligār of SENDAMANGALAM, and by others to Lakshminarasayya, an officer under the Mysore Rājā. It is perhaps less than 200 years old, and was captured by the English in 1768, only to be lost again to Haidar a few months later. At the foot of the rock on the other side lie the drinking-water tank called the Kamalālayam and a public garden. The town possesses a high school, the only local fund institution of that class in the District. Ghī of an excellent quality is brought to the Nāmakkal market and exported to distant places.

Rāsipur.—Town in the Salem taluk and District, Madras SALEM
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Presidency, lying in 11° 28' N. and 78° 11' E. It is situated in the fertile valley between the Bodamalais and the KOLLAIMALAIS. Population 11,512 (1901). Silk and cotton cloths are extensively woven in it, and large iron boilers for the manufacture of jaggery (coarse sugar) and brass and bell-metal vessels of all kinds are made.

Rāyakottai (king's fort).—Village in the Krishnagiri taluk, Salem District, Madras Presidency, situated in 12° 31' N. and 78° 2' E., with a population of 1,497. To the north stands the hill with its ruined fort which gives the place its name. This commands one of the most important passes between the Mysore table-land and the BARAMAHAL, and was of great military importance in the Mysore wars of the eighteenth century. Its capture by Major Gowdie was the first exploit in Lord Cornwallis' great march. It was ceded to the English by the treaty of 1792, and under its walls the army of General Harris encamped in 1799 before entering Mysore territory on its way to Seringapatam. The place was at one time a favourite residence of military pensioners.

Salem Town.—Head-quarters of the taluk and District of the same name in the Madras Presidency, lying in 11° 39' N. and 78° 10' E., at a distance from Madras by rail of 206 miles. It is situated in a picturesque valley bounded on the north by the SHEVAROYS, and on the south by the Jarugumalais. The Tirumanimuttār river flows through this and contributes to the wealth of greenness which is the great charm of the landscape. It contains the usual offices, a small college and one of the seven Central jails of the Presidency. The residences of the officials, except of the Collector, whose house is in the native quarter, are pleasantly situated on high ground along the road to YERCAUD, which is only fourteen miles distant by the old bridle path. The town is straggling and extensive, and is about four miles long and three broad. Its population in 1901 was 70,621, and it ranks as the fifth largest place in the Presidency. Of its inhabitants 63,444 were Hindus; 5,811, Musalmāns; and 1,365, Christians; and a solitary Jain made up the total. The population in 1871 was 50,012; in 1881, 50,667; and in 1891, 67,710. A serious riot took place here in 1882 between the Muhammadans and the Hindus, the question involved being the old one of the right of a Hindu procession to pass a Musalmān mosque. Salem was made a

SALEM municipality in 1866. Its average receipts and expenditure for the ten years ending 1902-03 were about Rs. 77,000 and Rs. 70,000 respectively. In 1903-04 the income was Rs. 90,000, the chief items being the usual house and land taxes, and the expenditure (Rs. 1,00,000) included medical services and sanitation (Rs. 39,000), education (Rs. 23,000) and public works (Rs. 20,000). The great want of the town is a proper water-supply. Several schemes have been investigated but only recently has a promising one been discovered. Salem formerly had an evil reputation as a hot-bed of cholera, and in the autumn of 1875 there were 2,039 attacks and 840 deaths in the short space of six weeks. Weaving in silk and cotton is the chief local industry but is on the decline. In the distress of 1891-92 the weavers suffered greatly and migrated in large numbers, the demand for their productions having fallen off owing to the scarcity of money among their usual clients. Government started a special scheme for their relief, by undertaking to purchase cloths from them on a system which left them a margin for their subsistence.

Sankaridrug.—Village in the Tiruchengodu taluk, Salem District, Madras Presidency, situated in $11^{\circ} 29' N.$ and $77^{\circ} 52' E.$, two miles distant from the railway-station of the same name on the Madras Railway. Population 2,046 (1901). The place is built just under the Sankaridrug hill, which rises to a height of 2,343 ft. and is completely terraced with fortifications. These point to the vicissitudes of modern southern Indian history, some of them dating from the time of the Hindu chieftains, others from Tipū Sultān's days and yet others being of English origin. The hill is well worth climbing. Past a Hindu temple, the door of which is riddled with bullets, the traveller toils up a flight of steep steps, and half way along the ascent reaches a snowy masjid erected in honour of a Moslem saint, which nestles among the green foliage that clothes the hill like a pearl set among emeralds. Leaving this, the path winds among remains of modern fortifications and the houses of the garrison, now over-grown with shrubs and prickly pear, and at length reaches a plateau at the top of the hill. Here is a fount of pure and cold water, supposed to be possessed of medicinal virtues, and the remains of the old Hindu fort, its granary and the subterranean cell into which condemned prisoners were thrown, come into view. Crowning all are the temples of Vishnu, the lights of which twinkle in the

evenings in the surrounding darkness. The village is very healthy, and was a favourite camping place for the District officers till YERCAUD rose into prominence. The public bungalow is one of the finest in the District, and is picturesquely situated on a rock just under the hill.

SALEM
DISTRICT.

Sendamangalam.—Town in Nāmakkal tāluk, Salem District, Madras Presidency, situated in 11° 17' N. and 78° 15' E. Population 13,584 (1901). It is the third largest town in the District, ranking only below Salem and Tiruppattūr; but the occupations of the people are purely agricultural, and it is of little other interest.

Tiruchengodu Town.—Head-quarters of the tāluk of the same name in the Salem District, Madras Presidency, lying in 11° 22' N. and 77° 53' E., five miles from the Sankaridrug railway-station on the Madras Railway. Population 8,196 (1901). The town is celebrated for the shrine on its hill which is one of the great temples of the Konga Vellālas and attracts thousands of pilgrims.

Tiruppattūr Town.—Head-quarters of the tāluk and sub-division of the same name, Salem District, Madras Presidency, situated in 12° 29' N. and 78° 34' E. Distance from Madras 121 miles by the south-west line of the Madras Railway. It has a population of 18,689 (1901), of whom more than a third are Muhammadans. The town has always been a favourite station with District officers and was the first British capital of the District, Colonel Read, the first Collector, having made it his head-quarters in 1792. It was constituted a municipality in 1886, and the average receipts and expenditure for the ten years ending 1902-03 were Rs. 25,000 and Rs. 24,700 respectively. The income in 1903-04 was Rs. 56,000 and the expenditure Rs. 44,000; of the former Rs. 31,000 were contributed by Government and the rest was principally derived from the house and land taxes and from tolls.

Vāniyambādi.—Town in the Tiruppattūr tāluk, Salem District, Madras Presidency, situated in 12° 41' N. and 78° 37' E., 115 miles from Madras by rail. It has a large population (7,594 out of the total of 12,005 inhabitants at the last census) of the Labbai tribe of Musalmāns, a mixed race consisting partly of the offspring of Musalmāns and the women of the country and partly of converts from Hinduism. Many of these are very wealthy and engage in trade with all parts of India, especially, as at Vāniyambādi, in skins and hides. Other objects

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SALEM
DISTRICT.

of commerce are grain, cloths and oil. The town is situated mainly on two islands enclosed by the branches of the PALAR river and is liable to inundation in the rainy season. In 1874 the Palār rose and washed away portions of the town. The floods of 1903 did even greater damage. On the night of the 17th November, the river rose suddenly and flooded the low-lying portions of the place, the water rushing through some of the streets as much as ten feet deep. It washed away many houses, and, though the majority of the people saved themselves by taking refuge on the roofs, some 150 to 200 lives were lost. Fresh sites have been acquired to the east of the railway and the nucleus of a new town is rising. Vāniyambādi was created a municipality in 1886. The average receipts and expenditure for the ten years ending 1902-03 were Rs. 23,200 and Rs. 23,100 respectively. The income in 1903-04 was Rs. 65,700 and the expenditure Rs. 39,600; of the former, Rs. 43,800 were contributed by Government and the rest was principally derived from the house and land taxes.

Yercaud (*Er-kād*, lake-wood).—A sanitarium on the SHEVAROY HILLS, in the Salem taluk and District, Madras Presidency, situated in 11° 49' N. and 78° 12' E., at an elevation of 4,828 feet above sea level. Population (1901) 7,787. It is steadily growing in favour every year as a hot weather resort and contains good accommodation for visitors. Its scenery is of great variety and beauty and includes the charm (not obtainable in OOTACAMUND and KODAIKANAL, for example) of views, from almost every point, of the plains below. The climate is delightful and equable, seldom rising above 75° and never falling much below 60°; and any number of interesting excursions can be made to different points of interest. All round it are the coffee estates of the European planters who have settled in and near it. It is easily reached by the recently opened cart road from Salem railway-station, distance 20 miles.

COIMBATORE DISTRICT.

Coimbatore District (*Koyamuttūr*).—An inland District in the south of the Madras Presidency, with an area of 7,860 square miles, lying between $10^{\circ} 14'$ and $12^{\circ} 19'$ N. and $76^{\circ} 39'$ and $78^{\circ} 14'$ E. West and south it is bounded by the highest hills in the Presidency, the Nilgiris and the ANAIMALAIS, the latter of which are perhaps the most striking range in the south, consisting of a series of plateaux, some rising to 7,000 feet in elevation, and containing forests of great importance. Through the three northern taluks run the confused hills of the EASTERN GHATS and one of them, Kollegāl, is consequently on a higher level than the rest of the District. Excluding this, the centre of Coimbatore consists of an open plain which slopes gradually eastwards away from the hills towards the river CAUVERY, the eastern boundary of the District. The plain is broken here and there by isolated low hills, but otherwise, except in the level black cotton soil tracts in Udamalpet, Palladam and Coimbatore taluks, is made up of a succession of gentle undulations between which the rivers run. Its scenery differs little from that of the adjoining east coast Districts, except that the frequent green patches of cultivation near its numerous wells give it in the dry season an unusually prosperous look. The spurs of the Eastern Ghāts in the three northern taluks form two well-marked minor ranges, known as the BILIGIRI-RANGANS and the Bargūr hills. The former consist of two ridges running up into peaks of over 5,000 feet, and lie on the extreme west of Kollegāl taluk, extending into Mysore territory. The latter stand between the Bhavāni and Kollegāl taluks and are called after a village which lies among them. They form a long narrow plateau of over 3,000 feet in height. In both of these ranges the scenery is always picturesque, while in many of the lower valleys the heavy jungle is particularly wild. Of the hills on the western frontier of the District the most conspicuous are Rangaswāmi Peak and Lambton's Peak.

COIMBATORE
DISTRICT.

Boundaries,
configuration
and hill and
river systems.

Except the Aliyār, an unimportant stream, all the larger rivers run eastwards, following the trend of the ground, into the holy Cauvery, the most important river of the District and its boundary along the whole of its northern and eastern sides. At the north-west corner of Kollegāl this forms the famous falls of SIVASAMUDRAM, which are well known for their great beauty, and are utilised to generate electricity for the machinery at the Kolār Gold Fields, and for lighting the town of Bangalore. The BHAVANI, a perennial river, which rises in the ATTAPADI VALLEY in Malabar, crosses the District from west to east just south of the three northern upland taluks and flows

COIMBATORE
DISTRICT.

into the Cauvery at BHAVANI town. The Noyil, a fitful and uncertain stream which is in high and rapid flood for a few days and then for months together almost dry, has its source in the Bolampatti valley among the outlying spurs of the Nilgiris and passes through COIMBATORE town on its way to the Cauvery. The Amarāvati rises in the Anaimalai hills, receives the drainage of the northern slopes of the Palni hills in Madura District, and, after passing through DHARAPURAM and KARUR towns, joins the Cauvery at the point where the Coimbatore and Trichinopoly Districts touch one another.

Geology.

Most of the south of the District is composed of archæan gneisses buried to a considerable extent under surface alluvium. The uniform level of the plain is sparingly broken at irregular intervals by small bands of members of the charnockite series of rocks; by one small band of syenite gneiss near Kāngayam; and by upstanding crags and ridges of crystalline schists. The northern hilly tracts include a vast area of charnockite rock. Near KOLLEGAL are a few ferruginous bands and poor quartz reefs. Near Kāngayam some very coarse ramifications of acid pegmatites once yielded beryl, and in the same locality corundum, which also occurs elsewhere, is found in a coarse red felspar rock.

Botany.

The flora is naturally very varied, since the elevation and the rainfall of the District differ greatly in different parts. The higher plateaux of the Anaimalais, the low hills of the northern tāluks and the dry central plain each possess their own characteristic plants and trees. The forest growth and the commoner crops are referred to briefly below. On the low country the trees differ little from those of neighbouring areas, and are usually of poor growth. Fruit trees are scarce. The well-known *tangedu* (*Cassia auriculata*), the bark of which is used in tanning, and fibres, resins and vegetable oils of the common descriptions are abundant.

The hill country contains all the game usual to such localities. Elephants are common in the Anaimalais and also occur in the Biligiri-rangan hills in Satyamangalam. Near Hāsanūr in the latter tāluk Sir Victor Brooke shot (in 1863) the largest elephant on record in this Presidency. It stood 11 feet 4 inches at the highest point of its back and one of its tusks measured 8 feet in length and weighed 90 lb., the other being diseased.

Fauna.

Among rarer animals are the Nilgiri ibex (*Hemitragus hylocrius*), the true hunting leopard (*Cynelurus jubatus*), nilgai (*Boselaphus tragocamelus*) which are said to be descendants of some tame ones which belonged to Tipū Sultān, and an occasional wolf or two. There are mahseer of unusual size in the Bhavāni and Cauvery.

Climate and
temperature.

The lower hills of the District are feverish, especially from February to June, but elsewhere the climate of Coimbatore is unusually dry and proportionately healthy. The temperature varies inversely with the altitude, being highest in the low-lying Cauvery

valley, more moderate in the uplands on the west, pleasant in Kollegal taluk, as cool as the Salem Shevaroy's in the Bargur hills and coolest of all on the higher ranges of the Anaimalais. The average mean of the year in Coimbatore town is 80° against 83° in Madras.

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DISTRICT.

The rainfall, like the temperature, varies considerably in different parts of the District. Kollegal taluk receives some of the south-west monsoon and consequently has the heaviest fall, and Pollachi taluk gets more rain than the Cauvery valley or the other taluks in the central plain of the District. These other taluks are the driest tract in the Presidency except the centre of the Bellary District. The average annual fall for the whole District is about 26 inches. The rainfall is, however, exceedingly capricious and uncertain, and the country is liable to long droughts and to frequent cycles of continuous deficiency in the monsoons. The District has been fortunate in escaping serious natural calamities other than famine. Thirty-one lives were lost in an earthquake which occurred on 8th February 1900.

Rainfall.

The District was never a political entity by itself and its history is not of particular interest. Coimbatore and the south-western taluks of the present Salem District formed the Kongu country, and Coimbatore is still called the Kongunad. During the ninth century A.D. the Kongu country passed under the Chola kings, who held it for nearly 200 years. It then broke up into a number of small principalities which during the eleventh century fell an easy prey to the Hoysala Ballala kings of Mysore. In the fourteenth century, this dynasty in its turn gave way to the Hindu kingdom of Vijayanagar, which held the country until its downfall in 1565. Coimbatore then came into the hands of the Vijayanagar viceroy at Seringapatam, who, like his colleagues, had assumed independent powers, and shortly afterwards passed from him to the viceroy at Madura. During the second half of the seventeenth century the whole District seems to have been a prey to constant wars and raids owing to the conflict between the Vijayanagar viceroys and the growing Hindu power of Mysore. Kaveripuram was attacked in 1644, SATYAMANGALAM was taken in 1653, ERODE and DHARAPURAM in 1677, and before king Chikka Deva Raja of Mysore died in 1704 the whole of the District had come under his dominion. But it continued to be largely ruled through the agency of poligars, or small local chieftains, whose powers were almost absolute and who used them ruthlessly, and the people thus gained little by the change of sovereigns. In 1761, Haidar Ali usurped the Mysore throne. During the 40 years of Muhammadan rule which followed, until the District came under the Company after the defeat and death of Haidar's son Tipu Sultan at Seringapatam in 1799, it was the scene of incessant marches and countermarches, advances and retreats, by the British and the Mysore troops; and the forts scattered through it, notably those at Erode, Karur, Dharaipuram and Coimbatore, were constantly taken and retaken in the numberless engagements which

History
and Archæo-
logy.

COIMBATORE
DISTRICT.

occurred. On four distinct occasions the District became the field of conflict between the British and Mysore powers. At the end of 1760 an English force took Karūr in retaliation for the assistance rendered in that year by Haidar to the French near Pondicherry, but, owing to the fact that Haidar was about this time expelled from Seringapatam and that the Mysore officers in this District disclaimed any connection with his acts, hostilities were carried no further. In 1768, while Haidar was busy on the west coast, Colonel Wood marched through the District and, having completely conquered it, garrisoned the passes and the chief fortified places. His garrisons were weak, however, and, in spite of the heroic resistance of some of them, every place in the District either fell or was abandoned before Haidar's advance at the end of the same year. In the first Mysore war, while Tipū was engaged on the west coast in 1783, Colonel Lang marched into Coimbatore to effect a diversion and took Karūr and Dhārāpuram, and later in the same year Colonel Fullarton marched through the District to relieve Mangalore, taking Coimbatore on the way. In the second Mysore war the District was the scene of considerable operations, since General Medows occupied it with a large force in 1790 and designed to invade Mysore by the pass of Gazalhatti. In September of that same year, however, Tipū descended that pass with a large army, and, after two stubborn engagements with Colonel Floyd at Satyamangalam, compelled the British forces to retreat and re-occupied all the forts in the District except Coimbatore and Karūr. Of these, Coimbatore fell after the most gallant defence in the following year, and Karūr was restored to Tipū after the peace of 1792. Seven years later the District passed under British rule. Haidar had done something to check the poligārs' exactions; but his taxes were excessive, trade was crushed by numerous duties, and the peasantry were at the mercy of the troops who continually overran their villages, so that, when the British took it over, the District was in a pitiful condition.

Throughout the District, even on the Anaimalais, are scattered prehistoric kistvaens, which have been found to contain bones, pottery, implements, ornaments and bronze images, and in one case punch-marked coins. Several discoveries of Roman coins,¹ chiefly of Augustus and Tiberius, have been made. Jain temples and remains are not infrequent. The most noteworthy Hindu temple is that at PERUR, but even this is a modern erection and the work in it is pretentious and coarse.

The people.

The number of towns and villages in the District is 1,445. Its population in 1871 was 1,763,274; in 1881, 1,657,690; in 1891, 2,004,839; and in 1901, 2,201,752. The decline in 1881 was due to the great famine of 1876-78. Ninety-seven per cent. of the people

¹ See Catalogue No. 2 of Roman, Indo-Portuguese, etc., coins in the Madras Museum, by E. Thurston. (Madras, 1894.)

are Hindus and more than 2 per cent. are Musalmāns. The District is divided into ten tāluks, Bhavāni, Coimbatore, Dhārāpuram, Erode, Karūr, Kollegāl, Palladam, Pollāchi, Satyamangalam and Udamalpet, statistical particulars of which, according to the census of 1901, are appended :—

COIMBATORE
DISTRICT.

Taluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Kollegāl	1,076	1	122	96,563	90	+ 9'1	4,020
Erode	598	1	198	275,460	461	+ 11'5	10,553
Bhavāni	715	1	62	145,982	204	+ 21'8	4,480
Dhārāpuram	853	1	83	271,127	313	+ 7'2	12,825
Karūr	612	1	95	220,843	361	+ 4'3	11,595
Coimbatore	812	1	263	330,684	407	+ 7'6	25,544
Satyamangalam	1,177	1	175	214,101	182	+ 16'3	7,375
Pollāchi	710	1	153	195,603	273	+ 6'5	11,179
Palladam	741	1	193	300,904	406	+ 11'3	12,992
Udamalpet	566	1	86	150,490	266	+ 7'9	10,746
District Total ...	7,860	10	1,435	2,201,752	280	+ 9'3	111,309

The head-quarters of these (except of Satyamangalam, which is at GOPICHETTIPALAIYAM) are at the places from which each is named. The chief towns are the municipalities of Coimbatore, the administrative head-quarters of the District, Erode, and Karūr.

Owing to the large areas of forest which Coimbatore comprises it is less densely populated than the other southern Districts of Madras, but in the decade 1891-1901 its inhabitants increased at an unusual rate, the advance in the sparsely peopled tāluks of Bhavāni and Satyamangalam being specially notable, notwithstanding the fact that considerable numbers of them migrated to the Nilgiris and Madura. Though the District is in the Tamil country, as many as 21 per cent. of the people speak Telugu, and in Kollegāl taluk Kānarese, the language of the adjoining Mysore country, is spoken by 78 per cent. of the inhabitants.

By far the most numerous caste in the District are the agriculturist Vellālas, who are twice as strong here as in any other Madras District except Salem, and number 690,000, or 31 per cent. of the entire population. Other common cultivating castes are the Kānarese Vakkaligas and the Telugu Kammās and Tottiyans. After the

Their castes
and occu-
pations.

COIMBATORE DISTRICT.

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DISTRICT.

Vellālas come the Chakkiliyans (leather-workers) who number 197,000 and are more than twice as numerous as in any other District. The Shānāns (toddy-drawers; 79,000) come next, and after them the Paraiyans (field-labourers; 76,000) and the Oddes (well-sinkers and earth-workers; 74,000). Other castes which appear in strength are the Pallans and Pallis, who are also mainly field-labourers, and the weaving communities of the Kaikolans, Devāngas and Janappans. Brāhmans are unusually few, numbering only 36,000, or less than 2 per cent. of the population. These statistics correspond with those of the occupations of the people, for though the District is essentially an agricultural one, 65 per cent. of its people living by the land, it is less so than most, owing to the unusually large number of its inhabitants who are toddy-drawers, leather-workers, earth-workers and weavers. Among castes which are seldom found elsewhere may be mentioned the two jungle tribes of the Sholagas of the North Coimbatore hills and the Malasars of the Anaimalais.

Christian
missions.

Of the 17,800 native Christians in the District, over 15,000 are Roman Catholics. The Jesuit Fathers of the famous Madura Mission¹ had a chapel at Dhārāpuram as far back as 1608. In 1739, a bull of Pope Clement XII, prohibiting certain Hindu customs tolerated till then, caused dissensions and apostacy. Then came the cessation of support from Portugal, and finally the suppression of the Society of Jesus by Clement XIV in 1773. The missionaries struggled on nevertheless, and in 1845 they were formed into a distinct mission, in charge of the French priests of the 'Société des Missions Étrangères,' which in 1850 was made a Bishopric. The London, Leipzig Evangelical Lutheran and Wesleyan Methodist are the chief Protestant missions. These have been working in the District for about the last seventy, forty and twenty years respectively.

General
agricultural
conditions.

Kollegāl tāluk differs as much from the rest of the District in agricultural conditions as it does in climate and altitude. Elsewhere gneiss is the chief underlying rock, and the soils derived from it are of fair composition, chemically considered. The four eastern tāluks, Bhavāni, Erode, Dhārāpuram and Karūr, are covered almost entirely with thin gravelly, sandy or agglomerated calcareous soils, and these occupy more than half of the western tāluks also. In three of the latter, however, Coimbatore, Palladam and Udamalpet, more than one-sixth of the culturable area consists of black cotton soil, while in the two others, Pollāchi and Satyamangalam, there is a good deal of rich red loam. At the foot of the undulations of which all this part of the District consists is generally found a layer of better soil which the rainfall, light as it is, has washed down from the higher ground, and these bottoms are more than usually fertile. In them are to be found the majority of the numerous wells for which the District is noted. Both wet and dry crops on all classes of soil are mostly matured with the help of the north-east monsoon in October and November.

¹ See the four volumes of *La Mission du Maduré*.

The District is almost entirely ryotwāri, the zamīndāri and inām lands covering only 684 square miles. The area for which particulars are on record is 7,672 square miles, statistics of which for 1903-04 are appended :—

COIMBATORE
DISTRICT.

Chief
agricultural
statistics
and principal
crops.

Tāluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irrigated.
	SQ.M.	SQ.M.	SQ.M.	SQ.M.	SQ.M.
Kollegāl	1,187	718	239	162	11
Erode	600	16	6	520	92
Bhavāni	715	372	70	253	36
Dhārāpuram	854	5	5	776	106
Karūr	575	3	4	506	61
Coimbatore	814	208	31	500	71
Satyamangalam	1,056	534	45	379	72
Pollachi	584	200	1	349	38
Palladam	739	...	7	672	117
Udamalpet	548	222	...	295	67
District Total ...	7,672	2,278	408	4,412	671

The staple food-grains of the District are *chulam* and *cambu*, the areas under which were 1,033 and 1,010 square miles respectively, or 26 and 25 per cent. respectively of the total area cropped. *Chulam* is the most prominent crop of the southern and western tāluks, and *cambu* that of the east and north of the District. Next in importance come various pulses and *rāgi*. About one-fourth of the latter was grown in Kollegāl. Rice occupied only 193 square miles in 1903-04. Cotton is mainly grown in Erode, Palladam and Udamalpet tāluks and sugar-cane in Coimbatore and Udamalpet. Tobacco is an important crop everywhere except in Erode and Kollegāl, and there are about 1,400 acres under coffee. In Kollegāl 8,000 acres produce mulberry, which is cultivated to feed the silk-worms bred there.

The extension of the area of holdings has only amounted to five per cent. in the last thirty years, though three-fourths of the arable area in Kollegāl and considerable tracts in Satyamangalam, Bhavāni and Coimbatore tāluks are still unoccupied, nor has much been done to improve the quality of the crops grown. Bourbon cotton was introduced at the beginning of the last century, succeeded well, and is still largely grown, but extensive experiments with American varieties have failed. The Mauritius sugar-cane has, however, quite ousted the indigenous variety. The ryots have availed themselves of the Land Improvement Loans Act far more freely than those of any other District in the Presidency. In the sixteen years since 1888 more than 15 lakhs have been advanced to them under the Act, the greater portion of which has been laid out in digging or repairing wells.

Improve-
ments in
agricultural
practice.

COIMBATORE
DISTRICT.Cattle,
ponies,
and sheep.

The chief breeds of cattle in the District are the Alambādi, Bargūr and Kāngayam varieties. The first are best for heavy draught, the second as trotters and the last as dairy cattle. The Alambādīs are sent to the great cattle fair at Madura and to other markets in the southern Districts. There are large local fairs at Mādeswaramalai, in the Kollegāl hills, Avanāshi and TIRUPPUR.¹ Ponies have long been bred by the zamīndārs and wealthier ryots in Coimbatore, and since 1885 Government has encouraged the enterprise by supplying sires, eight of which are now stationed in various towns in the District. The annual pony shows held under Government control at Tiruppūr have demonstrated that an improvement in the breed of ponies has already taken place and that a further advance may be looked for. Sheep are of two breeds, the Kurumba and the Semmeri. The former is a black faced sheep with white wool. The Semmeri sheep are brown, and covered with hair instead of wool, and are only valued for their flesh. Goats are bred mainly as manuring agents.

Irrigation.

Of the total area of ryotwāri and minor inām land cultivated, 671 square miles, or 19 per cent., was irrigated in 1903-04. Of this, as much as 502 square miles was watered from wells, Government canals irrigated 119 square miles, and tanks only 35 square miles. The Cauvery supplies about 5,500 acres, of which 1,000 are in Kollegāl tāluk and the remainder in Karūr. Various channels from the Amarāvati, fed by *korambus*, or temporary dams across the river, irrigate 44,000 acres of first and second crop in Udamalpet, Dhārāpuram and Karūr tāluks. Two dams across the Bhavāni irrigate 39,000 acres in Satyamangalam and Erode tāluks. Of the 151 tanks in the District, the only ones of importance are the Appakkudal chain in Bhavāni tāluk, fed by streams from the Bargūr hills, and the Dhali series in Udamalpet tāluk, supplied from the Anaimalais. The wells of the District are its mainstay. As the figures show, they irrigate three times the area which the Government channels and tanks supply, and in all but the severest droughts they are unfailing. About 74,000 of them are in working order, and they permit the growing of two and even three crops a year on the land commanded by them. Leather buckets drawn up with a rope and pulley by cattle working down an inclined plane are universally used for lifting the water.

Forests.

Coimbatore is one of the few Districts in the Presidency which has real forests, as distinguished from the patches of scrub and small trees which make up the greater portion of the technical forest area. It consequently has two District Forest Officers, instead of one as usual, whose charges are known as North and South Coimbatore, respectively. The District possesses 2,008 square miles of actual

¹ For further particulars, and an account of the breeding herd of the Pattagar of Pālaiyakkottai in this District and of the grasses grown for pasture, see Bulletins Nos. 8, 27 and 44 of the department of Land Records and Agriculture.

reserved forests besides 270 square miles, mainly in Kollegāl, of reserved land at the disposal of the Forest department.

COIMBATORE
DISTRICT.

In North Coimbatore nearly the whole of the forests are in the three hilly northern tāluks of Bhavāni, Kollegāl and Satyamangalam. The greater part of these are at present chiefly valuable as a huge grazing ground for cattle. They must have been at one time much finer than at present but, owing no doubt to the large number of villages situated in the reserved area, they have suffered from forest fires and perhaps from excessive grazing. At present they form only a poor catchment area for water, which is apt to flow down to the plains in sudden and destructive floods after rain. Still, though the trees are small, there are a number of valuable species. Sandal and cutch form an almost continuous belt running from the west of Satyamangalam to the east of Bhavāni. In patches along the valley of the Cauvery the hills are covered with *acha* (*Hardwickia binata*), and teak is found in the Bargūr hills, in some of the valleys of Kollegāl and on the plateau above Satyamangalam. *Vengai* (*Pterocarpus Marsupium*) is common almost everywhere, *jāl* (*Shorea talura*) is fairly abundant, blackwood (*Dalbergia latifolia*), *Eugenia*, *Terminalia* and many other valuable species occur frequently in the damper areas, while the drier parts contain a considerable amount of satinwood, *Albizia* and *Anogeissus*. A large revenue is obtained from minor forest produce, the principal items being tanning material in the shape of myrabolams and *tanjedu* bark (*Cassia auriculata*) while soap-nuts (*Sapindus trifoliatus*), *sikāy* (*Acacia concinna*), *vembādām* bark (*Ventilago Madras-patana*), and honey and wax are also of importance.

The most important part of the South Coimbatore forests lies on the Anaimalais, in Pollāchi and Udamalpet, and is described in the account of that range. In Coimbatore tāluk the forests run along the western frontier and consist chiefly of those lying up the Bhavāni valley, those about Lambton's Peak range south of this, and those in the Bolampatti valley south again of that. The Bhavāni valley forests produce fair blackwood and *vengai* and excellent *ventek* (*Lagerstræmia microcarpa*) and wild mango, but the difficulties of transport are great. The Bolampatti forests also produce very fine blackwood and *vengai*, but their chief value lies in the protection they give to the head waters of the Noyil river. During 1903-04 the receipts from the forests amounted to Rs. 2,74,000 and the charges to Rs. 2,15,000. Of the former the most considerable items were timber (Rs. 66,000, of which all but Rs. 5,000 came from South Coimbatore), grazing fees (Rs. 67,000, of which Rs. 56,000 came from the northern division), sandalwood (Rs. 28,000, all of which came from the same tract) and firewood and charcoal (Rs. 23,000).

The minerals of the District are hardly worked at all. In Bhavāni and Satyamangalam iron is rudely smelted in small quantities from the black iron-sand, and being much harder than English iron is in considerable demand. In Kollegāl and Satyamangalam the old gold

Minerals.

COIMBATORE
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workings have lately been under exploration.¹ Saltpetre is obtained in large quantities by lixiviating the alkaline soils during the hot weather in shallow mud vessels and by then boiling the resultant liquid in large pans. The process gives a crude saltpetre fit for manure. For pure saltpetre a second or even a third boiling is necessary. In 1903 as many as 871 native factories and fifteen refineries were reported to be at work. Saltpetre is coming into increasing use as a manure on coffee estates. A mine near Kāngayam produced beryl of some value in 1819-20 when it was last worked. It has been suggested² that this mine was the source of the Indian beryl mentioned by Pliny, and that the export to Rome is the main reason for the numerous finds of Roman coins which have been made in the District. Corundum is worked by natives in an irregular fashion at Salangaippālaiyam, eight miles from Bhavāni, at Gopichettipālaiyam, and at Sivanmalai in Dhārāpuram tāluk. The last named deposits are the richest.³

Arts and
Manufac-
tures.

The only important arts in the District are cotton and silk-weaving and the making of cotton carpets. Cotton-weaving is of the ordinary kind, only coarse cloths being made. Silk-weaving is only carried on in Kollegāl tāluk, where the silkworm is bred in considerable numbers. The dyes used are good and the cloths effective and handsome. In some cases they are ornamented by the introduction of gold and silver embroidery, and the gold laced cloths and kerchiefs are well known. These sometimes sell for as much as Rs. 300 and even more, according to the quantity and quality of the embroidery, which in the highest priced cloths is woven in intricate and elegant designs into the texture of the cloth while still on the loom. The cloths are sold locally, or sent to Madras, Bangalore and Mysore. Small cotton carpets are made at Bhavāni. White yarn, spun at the Coimbatore mills, is used for the warp and the cotton for the woof is dyed locally. The Canvery water is said to make peculiarly brilliant and fast dyes. The carpets are sold locally or sent to Trichinopoly and Madras. At Settipālaiyam near Tiruppūr, a few families of lapidaries grind crystals on emery discs for spectacles, and also make them into *lingams* and other sacred images. At Anaipālaiyam, a neighbouring village, good bell-metal gongs are manufactured, the constituents of the particular alloy used being a trade secret.

There are eight cotton cleaning and pressing factories in the District. Five of these have been working for many years and four are driven by steam. They clean or press the local cotton for export to Bombay and England, and employ an average of 300 hands daily and press annually some 3,000 tons of cotton valued at 15 lakhs. At

¹ For a detailed account of the matter see *Memoirs of the Geological Survey of India*, vol. XXXIII, pp. 53-67.

² *Indian Antiquary*, vol. V, p. 237.

³ See Part I (Corundum) of the Economic Section of the *Manual of the Geology of India* (Calcutta, 1898).

Coimbatore there is a recently-established spinning mill. Particulars of this and other industrial enterprises there are given in the article on that town. Leather-making is an important industry in the District. There is a tannery under European management at Coimbatore, and another at METTUPALAIYAM. Leather buckets for the numerous wells in the District are made in thousands annually, as each well requires a new one once a year.

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The chief exports are cereals and pulses, chillies, turmeric, spices, cotton, oilseeds, tobacco, ghi, sandalwood, plantains, jaggery, brass and copper vessels, cattle and leather; while the main imports include paddy, salt, salt-fish, piece-goods, and twist, metal and metal goods and cocoa-nut oil. Exports and imports are mainly to and from the neighbouring Districts, but the cotton from the northern taluks goes to Madras and from the southern to the cotton presses in Madura and Tinnevely Districts, the latter mainly by carts, which come in from those parts by the thousand in the cotton harvest season. The jaggery goes chiefly to the west coast by road and rail through the Pālghāt gap; the tobacco largely to the same country and to North Arcot, where it is cured by Muhammadan dealers. Much of the ghi goes to Mysore. Cocoa-nut oil is chiefly imported from Malabar. Coimbatore and Dhārāpuram are the chief centres of general trade and PALLADAM of the cotton trade, and the principal trading castes are the Chettis and Labbais. The Nāttukottai Chettis, the banking sub-caste of the former, are numerous in Udamalpet and Karūr, and of the Labbais a large proportion are to be found in Karūr taluk, especially in Pallapatti. Most of the internal trade is effected through the agency of the numerous weekly markets. These are managed by the local boards, and in 1901 nearly Rs. 50,000 were collected in the shape of fees. The most important are those at POLLACHI, Kunnattūr and Kāngayam. Commerce.

The south-west line of the Madras Railway (standard gauge) enters the District on the east about two miles from Erode, and runs across to the Pālghāt gap on the western frontier. From PODANUR a branch leads off to Mettupālaiyam, which is the terminus of the metre-gauge rack railway to Coonoor. The South Indian Railway enters the District near Puliyūr and skirts the Cauvery up to Erode, where it joins the Madras Railway. It was converted to metre-gauge in 1879. Other lines are under consideration, among them a metre-gauge line from Pālghāt or Podanūr junction to Palni in Madura District by way of Pollāchi and Udamalpet, and another from Erode to Nanjangūd in Mysore State through Satyamangalam. Railways and Roads.

The total length of metalled roads is 1,269 miles and of unmetalled 459. All these, except 40 miles of metalled and 20 of unmetalled road in charge of the Public Works department, are maintained from local funds. There are avenues along 1,572 miles of them. The southern part of the District is well supplied with communications, but through the country above the Ghāts in the three northern taluks

**COIMBATORE
DISTRICT.**

only two roads are practicable for carts, the Bargūr ghāt and the Hāsanūr ghāt. The Gazalhatti pass in the extreme west is a stony track which leads up to the Mysore plateau. It was formerly the chief road from Coimbatore to Mysore but is now only used by pack animals.

Famine.

The District has suffered from constant scarcities owing to the lightness of its rainfall and the absence of large irrigation works. The last 93 years have been tabulated as having been—6 good; 25 fair; 51 unfavourable; and 11 really bad. In 1861 both monsoons failed, prices of dry grains nearly doubled and state relief was necessary. In 1866 the south-west rains again entirely failed and the north-east monsoon was very light, so that relief was once more required. In the great famine of 1876–78 the District suffered very severely. At the height of the famine, in September 1877, 30,000 persons were on relief works and 204,000 in receipt of gratuitous relief. It was calculated that more than 197,000 persons died of famine or the diseases that accompany it. Including advances to agriculturists and weavers and remissions of land revenue, the famine in this District alone cost the state 50 lakhs. The last scarcity was in 1891–92. In September 1891, nearly 7,000 persons were on relief works and 460 more were in receipt of gratuitous relief. It is estimated that during this season 127,000 cattle died. Including remissions, the state expended Rs. 1,36,000.

**District
sub-divisions
and staff.**

For general administrative purposes the District is distributed into four divisions, one of the officers in charge of which is usually a member of the Indian Civil Service and the others Deputy Collectors recruited in India. These divisions are Erode, comprising the Bhavāni, Dhārāpuram, Erode and Karūr tāluks; Pollāchi, which includes Pollāchi, Palladam and Udamalpet; and Coimbatore and Kollegāl, the former consisting of the Coimbatore and Satyamangalam tāluks and the latter of Kollegāl. There is a tahsildār at the head-quarters of each of the tāluks and, except at Bhavāni and Kollegāl, a stationary sub-magistrate also. The superior staff of the District contains the usual officers, except that, as has already been mentioned, there are two District Forest Officers.

**Civil Justice
and Crime.**

There are four regular District Munsiffs, and the Deputy Collector and Magistrate of Kollegāl has the powers of a District Munsiff throughout that tāluk and in the portion of Satyamangalam which lies above the Ghāts. Appeals from the Sub-Judge of Ootacamund and the District Munsiff's Court of Gūdalūr in the Nilgiris, where there is no District Court, lie to the District Judge of Coimbatore. The Court of Session hears the sessions cases of the Nilgiris as well as those which arise within the District itself. Murders, dacoities and cattle-thefts fluctuate in numbers, as elsewhere, with the state of the season, but are nevertheless more than usually common. Murders proceed in a large majority of cases from private personal motives. The frequency of dacoities and cattle-thefts may in part be ascribed

to the precarious livelihood which cultivation offers in so arid a tract, and in part to the proximity of the Madura District, whence the Kallans, perhaps the most expert criminals in the Presidency, come over to Coimbatore to ply their profession. The system, which is so firmly established in Madura, of paying thieves *tuppu-kūli*, or clue-hire, for the recovery of property stolen, instead of reporting the theft to the police, has also obtained a strong hold in Coimbatore.

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Little is known of the Revenue history of the District prior to the time when the kingdom of Mysore was usurped by Haidar Ali. King Chikka Deva Rājā of Mysore (1671—1704) made a regular survey of the country. He took two-thirds (in kind) of the gross produce of wet lands, leaving the ryot one-third. When Haidar came into power at Mysore he apparently followed this survey as the basis of his assessments, but he collected all his rents in money in a single payment and not by instalments as is now the practice. This forced the ryots to sell immediately after the harvest at ruinously low prices, and much land was consequently given up. Tipū Sultān increased all the assessments 25 per cent., and yet more land went out of cultivation in consequence; but he was never able to collect this exorbitant demand and at his death the arrears were enormous, and only the garden lands and some wet land had any sale value.

Land
Revenue
administra-
tion.

Major Macleod, who was the first British Collector of the country north of the Noyil river, the area south of this being included in the then Dindigul District, began in 1800 a regular survey of the Government¹ villages in the District, which he followed by a rough settlement. In the southern part of the District, the Collector (Mr. Hurdis) made a survey and proceeded to estimate the grain-producing value of each field, a new idea in those days, and to commute the Government share into a money payment. Neither attempt was successful, the demand in both cases being more than the land could bear. The District as it exists at present was formed in 1805, Coimbatore being made its head-quarters. In 1808, the theory of permanent settlements had come into favour, and the District was divided into a number of small revenue farms of some two or three villages apiece which were leased to village headmen and wealthy ryots. This lease was a complete failure owing to the abuses perpetrated by the renters, and the revenue fell from 21 to 17 lakhs. In 1815 the ryotwāri system was restored. A new survey and settlement, resulting in a considerable reduction of assessment, was made, but many of the undesirable characteristics of the old native *régime* were continued and it was not until 1864 that revenue administration had reached the stage in which it now remains. In 1860 a new survey of the District was begun, and in 1872 a re-settlement was put in hand, which was completed in 1882. The survey found an excess in the cultivated area of 6½ per cent. over the amount shown in the accounts, and the settlement enhanced the total revenue by 8 per cent.

¹ The zamindāris were granted on a fixed permanent rent once for all.

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or a little over two lakhs of rupees. The average assessment on dry land is R. 0-14-7 (maximum Rs. 2; minimum annas 4) and that on wet land Rs. 6-7-6 (maximum Rs. 12; minimum Rs. 2½). The revenue from land and the total revenue in recent years are given below in thousands of rupees :—

	1880-81.	1890-91.	1900-01.	1903-04.
Land revenue	2,850	3,096	3,376	3,494
Total revenue	3,461	4,398	5,127	5,525

Local boards.

Outside the three municipalities of Coimbatore, Karūr and Erode, the local affairs of the District are managed by the District board, and the four taluk boards of Coimbatore, Erode, Pollāchi and Kollegāl, the areas under which correspond with those of the four administrative divisions above referred to. The expenditure of these boards in 1903-04 was about 4½ lakhs, nearly half of which was laid out on roads and buildings. The chief source of their income was, as usual, the land cess. In addition, the affairs of 21 of the smaller towns are managed by Union panchāyats established under Madras Act V of 1881.

Police and
Jails.

The District Superintendent of Police at Coimbatore has general control over the Nilgiri District as well as his own. The Nilgiris and Coimbatore together have 84 police-stations, and the force, in 1904, numbered 1,488 constables and 1,564 rural police, working under 20 inspectors. Besides the Coimbatore Central jail, there are fifteen subsidiary jails, which can collectively accommodate 270 persons.

Education.

Coimbatore stands twelfth among the 22 Districts of the Presidency in the literacy of its population, of whom 5.1 per cent. (9.7 males and 0.6 females) are able to read and write. Education is most advanced in Coimbatore and most backward in Satyamangalam, Kollegāl and Bhavāni taluks. The total number of pupils under instruction in the District in 1880-81 was 12,485; in 1890-91, 26,946; in 1900-01, 39,724; and in 1903-04, 39,559. On the 31st March 1904 there were within it 1,065 primary schools, 30 secondary, and five special schools, besides two colleges. The girls reading in these numbered 4,341. Besides the public schools, in 1903-04, 179 private schools contained 3,172 male scholars and 408 female scholars.

Of the 1,102 institutions classed as public, eight were managed by the Education department, 103 by the local boards and twelve by municipalities, while 574 were aided from public funds, and 405 were unaided but conformed to the rules of the Education department. The enormous majority of the pupils under instruction in the District are only in primary classes, and the number of girls who have advanced beyond that stage is extremely small. The improvement

in all directions during the last thirty years has, however, been very marked. Of the male population of school-going age 18 per cent. were in the primary stage of instruction in 1903-04 and of the female population of the same age 3 per cent. Among Musalmāns (who, however, form a very small proportion of the population) the percentage of the scholars of each sex to the male and female population of school-going age was 76 and 9 respectively. About 2,700 Panchama pupils were under instruction at 111 schools especially maintained for depressed castes. The two arts colleges are in COIMBATORE TOWN, to which place will also be moved the College of Agriculture of the Province now located at Saidapet.

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The total expenditure on education in the District in 1903-04 was Rs. 2,94,000, of which Rs. 1,11,000 was derived from fees. Of this amount more than 50 per cent. was devoted to primary education.

The District possesses twelve hospitals and twelve dispensaries, with accommodation for 132 in-patients. In 1903, 220,000 cases, of which 1,500 were those of in-patients, were treated, and 7,400 operations were performed. The expenditure in the same year was Rs. 54,000, the bulk of which was met from local and municipal funds.

Hospitals and
dispensaries.

In regard to vaccination the District has been backward of late years, but during 1903-04 the number of persons successfully vaccinated was 28 per 1,000, or only a little less than the mean for the Presidency, which was 30. Vaccination is compulsory in the three municipalities and in fifteen of the 21 Unions.

Vaccination.

Sir F. Nicholson, *District Manual*, 1887, and H. A. Stuart, *Revised edition*, 1898.

Kollegāl Tāluk.—The northernmost tāluk and sub-division of the Coimbatore District, Madras Presidency, lying between 11° 46' and 12° 18' N. and 76° 59' and 77° 47' E., and extending over 1,076 square miles. The Cauvery river bounds it on three sides, forming at its north-west angle the famous SIVASAMUDRAM island and falls. Its population was 96,563 in 1901 against 88,533 in 1891. It contains one town, KOLLEGAL, its head-quarters, population 13,729, and 122 villages, and its land revenue and cesses demand amounted in 1903-04 to Rs. 1,16,000. Kollegāl is the most sparsely peopled tāluk in Coimbatore, its population, which is mainly Kānarese as in the adjoining Mysore country, numbering only 90 to the square mile against an average of 280 for the District. Unlike the rest of Coimbatore, Kollegāl benefits considerably from the south-west monsoon, and its annual rainfall (35 inches) is the heaviest in the District. The southernmost spurs of the Eastern Ghāts run through it, forming on the west a well-marked minor range called the BILIGIRI-RANGAN HILLS, and it is on a higher level than the remainder of the District and really forms part of the adjoining Mysore plateau, the climate and temperature of which it shares. More than half of the tāluk consists

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of reserved forest, but this is chiefly useful as a grazing-ground for cattle, for the Kollegal ryot is more often a raiser of stock than a cultivator of arable land. The well-known Alambadi breed of draught cattle comes from here.

Erode Sub-division (*Irōdu*).—Sub-division of the Coimbatore District of Madras consisting of the taluks of ERODE, BHAVANI, DHARAPURAM and KARUR.

Erode Taluk.—One of the eastern taluks of the Coimbatore District, Madras, lying between $11^{\circ} 2'$ and $11^{\circ} 27' N.$ and $77^{\circ} 22'$ and $77^{\circ} 55' E.$ It has an area of 598 square miles and 275,460 inhabitants, and is more densely populated than any other in the District. In 1891 the population was 247,008. It contains one town, its head-quarters, the important municipality and railway junction of ERODE, population 15,529, and 198 villages. The land revenue and cesses demand in 1903-04 was Rs. 5,07,000, a higher figure than in any other taluk. Erode is a gently undulating plain with no hills of importance and but little forest, sloping gradually to the CAUVERY river which bounds it on the east. It is rather bare of trees and in the valley of the Cauvery the climate is hot and close. The irrigated land is of a good class, much of it being fed by the Kalingarāyan channel from the BHAVANI river. Wells are also unusually plentiful. The rainfall averages 27 inches at Erode, but it is variable and partial. *Cambu* is the chief cereal, and much cotton is raised.

Bhavāni Taluk.—Taluk in the north-east of the Coimbatore District, Madras, lying between $11^{\circ} 23'$ and $11^{\circ} 57' N.$ and $77^{\circ} 25'$ and $77^{\circ} 51' E.$, with an area of 715 square miles. It is bounded on the east and south by the CAUVERY and BHAVANI rivers respectively, these two uniting at its south-east corner. In the north and west large portions are covered by the Bargūr hills and consequently the taluk is poorly supplied with roads. It lies off the railway, and has only one considerable town, BHAVANI, its head-quarters, population 8,637, and 62 smaller villages. Its population in 1891 was 119,869 and in 1901 was 145,982, the increase amounting to nearly 22 per cent., which is greater than in any other taluk in the District. The land revenue and cesses demand in 1903-04 was Rs. 1,55,000. More than half the taluk is covered with forest. Of the culturable area about a tenth is usually irrigated and a fourth is unoccupied. *Cambu* is much more widely grown than any other crop and *cholam* and *rāgi* are also raised in fair quantities. The rainfall averages 29 inches at Bhavāni town but is less in the west of the taluk. The proportion of Christians is above the average for the District, being between two and three per cent. of the total population. Muhammadans are much fewer. The number of persons able to read and write is small as compared with other taluks. A hard and valuable iron is smelted in small quantities in the taluk, and corundum is worked irregularly at Salangaippālaiyam; there is also a brisk trade in cloths and forest produce at Bhavāni; but otherwise there are no industries worth

mentioning. The Bargūr cattle, bred in the hills of the same name already mentioned, are of medium size and, though rather intractable, are attractive in appearance, fast and strong.

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Dhārāpuram Tāluk.—One of the southern tāluks of the Coimbatore District, Madras, lying between $10^{\circ} 37'$ and $11^{\circ} 8' N.$ and $77^{\circ} 19'$ and $77^{\circ} 54' E.$ with an area of 853 square miles. The population in 1901 was 271,127 and in 1891, 252,847; land revenue and cesses demand in 1903-04 amounted to Rs. 4,47,000. It contains one town, its head-quarters, DHARAPURAM, population 17,178, and 83 villages. The tāluk is an undulating plain bounded on the north by the Noyil river and crossed by the Amarāvati, which irrigates a small area within it, on the south. The rainfall is low, averaging only 20 inches, and the soil is mostly poor and sandy. The irrigated crops are consequently not particularly good, but the irrigation from the Amarāvati is excellent, and the area watered by wells is larger than in any tāluk except Palladam. As usual in the south of the District, *cambu* is by far the most common cereal, and much tobacco is raised with well irrigation.

Karūr Tāluk.—Tāluk situated in the south-eastern corner of the Coimbatore District, Madras, between $10^{\circ} 38'$ and $11^{\circ} 6' N.$ and $77^{\circ} 45'$ and $78^{\circ} 14' E.$ It is an open and undulating plain, with no hills or forests of note, bounded on the north by the CAUVERY river and traversed by the Amarāvati. It is poorly wooded and suffers from an unusually trying hot weather. It has one town, its head-quarters, the municipality of KARUR, population 12,769, and 95 villages. The area is 612 square miles, and the land revenue and cesses demand in 1903-04 was Rs. 3,49,000. Population rose to 220,843 in 1901, as against 211,794 in 1891, and the growth in the decade has been slower than anywhere else in the District. The soil is mostly of an inferior red or grey variety and is generally lightly assessed. The area irrigated by channels is larger than in any tāluk except Satyamangalam. These lead from the Amarāvati and the Cauvery, and this is the first tāluk in the Presidency in which the water of the latter is used to any considerable extent. The rainfall (26 inches) is fairly plentiful and regular, and the crops are generally good. *Cambu* is by far the most common cereal.

Coimbatore Sub-division.—Sub-division of the Coimbatore District of Madras consisting of the tāluks of COIMBATORE and SATYAMANGALAM.

Coimbatore Tāluk.—Tāluk on the western frontier of the District of that name, Madras Presidency, lying between $10^{\circ} 49'$ and $11^{\circ} 24' N.$ and $76^{\circ} 39'$ and $77^{\circ} 10' E.$ Its area is 812 square miles and its inhabitants number 330,684 as against 307,282 in 1891. The land revenue and cesses demand was Rs. 4,29,000 in 1903-04. It contains one town, the flourishing municipality of COIMBATORE, population 53,080, which is the head-quarters of the tāluk and the District, and 263 villages. It is flanked on the west by the Nilgiri hills, numerous

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outliers from which run down into it on that side, but on the east it consists of a bare and open plateau with a very pleasant climate. One-fourth of it is covered by forest. Irrigation is chiefly from the Noyil river, which passes through the centre, but it is also known for its tanks. Six-sevenths of the dry land is red sand or red loam of a good kind. As in the other northern and western taluks, *chulam* is the chief crop, though *cambu* is also much grown, and a considerable area of cotton is raised.

Satyamangalam Taluk.—Taluk situated in the north-west of Coimbatore District, Madras, between $11^{\circ} 15'$ and $11^{\circ} 49'$ N. and $76^{\circ} 50'$ and $77^{\circ} 35'$ E. It is the largest taluk in the District, containing an area of 1,177 square miles. Besides GOPICHETTIPALAIYAM, population 10,227, its head-quarters, it includes 175 villages. The land revenue and cesses demand was Rs. 4,42,000 in 1903-04. The population was 214,101 in 1901, having increased by 16 per cent. since 1891, when it was 184,017. Almost half the taluk, its northern and eastern portions, is covered by hills which contain excellent forests. Of the culturable area about 13 per cent. is usually irrigated, and this contains a large proportion of the best classes of land in the District. It is fed mainly from the perennial BHAVANI river, which traverses the taluk from west to east, and the area watered by channels is higher in this taluk than in any other. On the dry land *cambu* is by far the most popular crop. The rainfall averages 27 inches. The part of the taluk which lies below the hills is well supplied with roads, but there are no railways or telegraphs in any portion of it. After Kollegal it is the most sparsely peopled in the District.

Pollachi Sub-division.—Sub-division of the Coimbatore District of Madras, consisting of the taluks of POLLACHI, PALLADAM, and UDAMALPET.

Pollachi Taluk.—Taluk lying between $10^{\circ} 15'$ and $10^{\circ} 55'$ N. and $76^{\circ} 49'$ and $77^{\circ} 16'$ E., in the south-west corner of the Coimbatore District, Madras, with an area of 710 square miles. Population rose to 195,608 in 1901 as against 183,669 in 1891. The land revenue and cesses demand in 1903-04 was Rs. 3,04,000. It contains one town, its head-quarters POLLACHI, population 8,958, and 158 villages. The north of the taluk consists of an undulating plain, but the southern portion is covered by the great ANAIMALAI HILLS and their dense forests. The former faces the well-known Palghat gap in the WESTERN GHATS and consequently receives some of the south-west monsoon, which this range prevents from reaching the east of the District, and so has an early cultivation season. The taluk contains less irrigated land than any other except Kollegal, but its dry land is usually good and includes some black loam on the extreme east. Nearly half the small extent of zamindari land in the District lies in this taluk.

Palladam Taluk.—Taluk in the centre of the Coimbatore District, Madras, lying between $10^{\circ} 47'$ and $11^{\circ} 21'$ N. and $77^{\circ} 1'$ and $77^{\circ} 30'$ E.,

with an area of 741 square miles. Population increased to 300,904 in 1901, as against 270,390 in 1891. It contains one fair-sized town, TIRUPPUR, population 6,056, and 193 villages including PALLADAM, its head-quarters. It is a flat and dreary plain without hills or forests. The only river is the Noyil. The irrigated area is higher than in any other taluk in the District, but nearly all of this is served by wells, with which it is better supplied than any other. There is much black cotton soil in the south and south-west and the area under cotton is larger than anywhere else in the District. *Cholam* is by far the most widely grown crop, and some tobacco is raised with irrigation from wells. The rainfall is very small, averaging only 20 inches. The land revenue and cesses demand amounted in 1903-04 to Rs. 4,87,000.

Udamalpet Taluk.—Taluk situated in the south-west of Coimbatore District, Madras, between 10° 16' and 10° 48' N. and 77° 3' and 77° 25' E., with an area of 566 square miles. It contains one town, its head-quarters UDAMALPET, population 10,503, and 86 villages. The population rose to 150,480 in 1901 as against 139,430 in 1891, of whom the unusually high proportion of 3 per cent. are Muhammadans, who are better educated than those of any other taluk in the District except Coimbatore. The land revenue and cesses demand in 1903-04 was Rs. 2,48,000. The majority of the taluk is an open plain, but the south contains a large portion of the ANAIMALAI HILLS and consequently between half and a third of the taluk is covered by forest. It is traversed by the upper waters of the Amaravati, which irrigate a small area in it. The rainfall is small, averaging only 22 inches. Most of the land is red earth, but there are large tracts of black cotton soil, and the area under cotton is large.

Bhavani River.—An exceedingly picturesque perennial river rising in the ATTAPADI VALLEY in Malabar in 11° 22' N. and 76° 32' E., and traversing from west to east for 105 miles the taluks of Satyamangalam and Bhavani in Coimbatore District, Madras, till it falls into the CAUVERY near BHAVANI town. The confluence is considered very holy and is frequented by pilgrims. Being fed principally by the south-west monsoon it receives its first freshes about the end of May, is at its highest from June to August, and thenceforward, with occasional floods in the north-east monsoon, gradually subsides. It is fed by a number of small tributaries from the slopes of the Nilgiris on the north and the more open country to the south. The most considerable of these is the Moyar, which drains the northern side of the Nilgiri plateau, and joins the Bhavani near Kottamangalam. The Bhavani is crossed by the ghāt road and the metre-gauge rack railway to the Nilgiris at METTUPALAIYAM, and by road bridges at SATYAMANGALAM and Bhavani. It has twice come down in considerable floods; in 1882 great damage was done along its banks, and in 1902 the road bridge at Mettupalaiyam was carried away. Otters are found in it, and it is famous for its mahseer and other fish. It affords the best irrigation in the Coimbatore

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District by the Tādampalli, Arakkankottai and Kalingarāyan channels which together irrigate 39,000 acres; and it has given its name to a considerable irrigation project which has been much discussed. This consists in forming a reservoir about four miles above SATYAMANGALAM to contain 27,000 million cubic feet of water. Opinion is divided as to how this water should be used, but the project in its present form does not contemplate any extension of irrigation in Coimbatore District, but provides for the water being utilised to supplement the Cauvery irrigation in Tanjore District in September and October. The question has arisen whether a reservoir could not be more advantageously constructed lower down on the Cauvery itself, and this is still under investigation. The forests which protect the head-waters of the Bhavāni are largely owned by private individuals, and unless they are carefully preserved the effect on the water-supply for irrigation from the river may in time be very serious.

Bhavāni Town.—Head-quarters of the tāluk of the same name in the Coimbatore District, Madras, situated nine miles north of Erode at the confluence of the BHAVANI and CAUVERY rivers in 11° 27' N. and 77° 40' E. Population 8,637 (1901). It was for a short time at the beginning of the last century the head-quarters of the northern portion of the District, but is now only important as a place of pilgrimage, its sanctity being due to its position at the junction of the two rivers. Both of these are crossed here by fine masonry bridges, as the main road from Madras to Calicut once passed this way. That over the Cauvery was originally built in 1847 but was washed away almost at once. It was re-constructed in 1851. The temple of Sangama Iswara (the god of the confluence) is well sculptured and is much revered. The old fort is said to have been built by a local chieftain who held it under the kings of Madura. The town contains a large number of Brāhmans and other persons attached to the temple, and is notorious for petty intrigues. Good cotton cloths and carpets are made here; the latter took a first prize at the Madras Exhibition in 1883. The place is said to have once been famous for its dyes.

Coimbatore Town (*Koyamuttūr*).—The head-quarters of the District and tāluk of the same name in the Madras Presidency, situated on the left bank of the Noyil river in 11° N. and 76° 58' E. It lies on the trunk road from Madras to Calicut and is 305 miles from the former town by the Madras Railway. Its population in 1872 was 35,310; in 1881, 38,967; in 1891, 46,383; and in 1901, 53,080. It is thus a rapidly growing place, and now ranks tenth among the towns of the Province. Eighty-five per cent. of its inhabitants are Hindus, Musalmāns numbering 4,129 and Christians 3,869.

During the wars with Haidar Ali and Tipū, Coimbatore, from its position commanding both the Pālghāt gap leading to Malabar and the Gazalhatti pass up to Mysore, was of great strategic importance. It was taken by the British in 1768, but was almost immediately lost again, the Muhammadan commandant treacherously murdering the

British officers and handing it over to Haider. In 1783 it surrendered to Colonel Fullarton, but was shortly afterwards restored to Tipu on the eve of the treaty of Mangalore. On the re-opening of hostilities in 1790 it was re-taken by the British. The year after, Tipu sent 2,000 regulars with guns and a considerable body of irregulars to regain it. The siege which followed is the most memorable event in its history. The fort was energetically and successfully defended against the first investing force by Lieutenant Chalmers (afterwards Major-General Sir John Chalmers, K.C.B.) and a young Frenchman named Migot de la Combe, with a small force of 120 topasses and 200 Travancore sepoys, of whom the majority either deserted or proved extremely insubordinate. Tipu then sent a second force of 8,000 regulars with fourteen guns and a large number of irregulars and cavalry under Kamar-ud-din, his most famous general, to avenge the repulse. The garrison had meanwhile been strengthened by reinforcements under Lieutenant Nash and numbered 700 men. A weak relieving force from Palghat was beaten back, and eventually, both Chalmers and Nash being wounded, the place was surrendered (October 1791) on condition that the garrison should be allowed to retire unmolested to Palghat. Tipu, however, violated these terms and sent Chalmers and Nash as prisoners to Seringapatam.¹ A couple of months later the British once more re-occupied Coimbatore, but in 1792 it was again restored to Tipu. In 1799 the British captured it yet again, and were finally confirmed in possession by the fall of Seringapatam in the same year. It was made the capital of the District in 1805.

Coimbatore is now one of the most desirable stations in the Province. Situated 1,300 feet above the sea, in a picturesque position at the mouth of the Bolampatti valley, with the masses of the Nilgiris and the Anaimalais rising into view on either side, its light rainfall of 22 inches and its moderate mean temperature render it at once healthy and pleasant. It is the head-quarters of the ordinary District staff; and also of a Conservator of Forests, a Deputy Inspector-General of Police, a Superintending Engineer, an Inspector of Schools, and a company of the Nilgiri Volunteer rifles. One of the seven Central jails of the Presidency is also located there. This was completed in 1868 and has accommodation for 1,340 persons. The convicts are largely employed in weaving, their average annual outturn being 420,000 yards of cotton fabrics, worth some Rs. 92,000, most of which is khaki or white drill made for the army or civil departments. The town further contains the cathedral of the Bishop of the French Société des Missions Étrangères, and is the head-quarters of the London and the Leipzig Evangelical Lutheran Missions working in the District.

¹ For further details of the two sieges, see Wilson's *History of the Madras Army* (Madras, 1882), ii, 212—215.

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Coimbatore was constituted a municipality in 1866. The average municipal receipts and expenditure in the ten years ending 1903 were Rs. 50,000. In 1903-04 the income was Rs. 76,000, chiefly derived from the house and land tax (Rs. 16,500) and tolls (Rs. 12,000), while the expenditure, Rs. 79,000, included conservancy (Rs. 40,000), roads and buildings (Rs. 11,000) and the municipal hospital, which contains beds for 40 in-patients, (Rs. 8,000). The outlay on conservancy was abnormal owing to the appearance of plague, and was partly met by a contribution from Government. A water-supply scheme for the town is under investigation. Its approximate cost is estimated at 3·3 lakhs.

Coimbatore is also the industrial and educational centre of the District. It contains a steam cotton press; a cotton spinning mill which has 20,000 spindles, employs nearly 1,000 hands daily and turns out some 850 tons of yarn; a tannery which employs 240 persons daily and produces 200 tons of leather worth six lakhs; two steam coffee-curing works, which employ 400 hands and treat coffee worth 12 lakhs, mostly from the Salem SHEVAROYS; a steam factory in which manure is made from blood, bones, and oilseeds; some works where coffee is roasted and ground for consumption; and a saltpetre refinery. All these are under European management, but in addition a distillery and a sugar factory owned by natives produce some 62,000 gallons of spirit and 440 tons of sugar, respectively.

The chief educational institutions are the Coimbatore and St. Michael's Colleges, both of the second grade. The former was established in 1852 by Mr. J. B. Thomas, then Collector of the District, and is managed by a committee of residents of the town. In 1903-04 it had an average daily attendance of 525 boys, of whom 67 were reading in the First Arts classes. The latter began in 1860 as a small school established by the French Roman Catholic Mission and was affiliated to the Madras University in 1891. Its average attendance in 1903-04 was 440 and there were 39 boys in the F.A. classes. The College of Agriculture, now located at Saidapet in Chinleput District, will shortly be moved to Coimbatore; and a forest school, for the training of deputy rangers and foresters, opened.

Dhārāpuram Town.—Head-quarters of Dhārāpuram taluk in the Coimbatore District, Madras. A well-built and rising town situated on the banks of the Amarāvati in 10° 45' N. and 77° 32' E., 30 miles south of Tiruppūr railway station. Population 17,178 (1901). It is traditionally reputed to have been of importance from very early times, and is historically not uninteresting. The Madura mission founded a settlement here in the seventeenth century. In 1667 it was taken from the kings of Madura by Mysore, and in the English campaigns with Haidar and Tipū it was a place of strategical value and was captured by Colonel Wood in 1768, re-taken by Haidar in the same year, again occupied by the British in 1783, given up by the treaty of Mangalore, and taken again in 1790 by General Medows.

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In 1792 the fort was dismantled. The town was almost deserted, but was re-built after 1799 upon plans drawn up by Mr. Hurdis, the first Collector of the southern part of the District, who made it his headquarters. A District Court was stationed at it for a few years till 1816. The town stands on an open plateau over 900 feet above the sea. Seven roads converge at it, and it is known for the manufacture of strong and durable carts, and has a fair trade in country produce.

Erode Town.—Head-quarters of the Erode taluk on the eastern border of Coimbatore District, Madras. Population 15,529 (1901). It is situated in $11^{\circ} 21' N.$ and $77^{\circ} 43' E.$, 243 miles from Madras at a junction of the Madras and South Indian Railways, and close to the bank of the CAUVERY. It seems to have been long an important place. Early in the seventeenth century the Jesuit Fathers established a station there. In Haidar's time it was very flourishing and is said to have contained 3,000 houses, which would be equal to a population of 15,000 souls; but in consequence of successive Marāthā, Mysore and British invasions the town became almost utterly deserted and ruined. It was taken from Madura by Mysore troops in 1667 and from Haidar by the English in 1768, only to fall into his hands again at the end of the same year. It was re-taken in General Medows' expedition of 1790, but was abandoned on Tipū's advance. It does not appear to have been a place of any real strength. As soon as the peace was signed in 1792 the people returned, and within a year it had 400 houses and a population of over 2,000. It was garrisoned by the Company at first; but the troops were withdrawn in 1807, and in 1877 the old fort was levelled as a famine relief-work.

Erode is a well-built town and is the head-quarters of the Divisional Officer, the Assistant Superintendent of Police, a District Munsiff, a stationary sub-magistrate, a tahsildār and the Public Works department sub-divisional officer. It was constituted a municipality in 1871, and the average total municipal receipts and expenditure in the ten years ending 1903 were Rs. 18,000. In 1903-04 they were Rs. 23,000, and most of the income was derived from the house and land taxes. Surveys and levels for a drainage scheme have been taken. A water-supply scheme has been investigated but has not been begun owing to want of funds. The antiquities of the town include two ancient temples which contain many inscriptions in Tamil and Grantha characters. Its chief industries are its cotton press and the making of carts. It is also the trade centre of this corner of the District.

Gopichettipālaiyam.—Head-quarters of Satyamangalam taluk in Coimbatore District, Madras, situated 25 miles north-west of Erode station in $11^{\circ} 27' N.$ and $77^{\circ} 26' E.$ Population 10,227 (1901). It contains the best wet land in the whole taluk and is full of well-to-do ryots and traders, and has therefore recently supplanted Satyamangalam as the chief town of the taluk. Corundum has been found here in fair quantities.

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Karūr Town.—Head-quarters of Karūr tāluk, Coimbatore District, Madras, population 12,769, situated in 10° 58' N. and 78° 6' E., on the South Indian Railway, 48 miles from Trichinopoly and on the Amarāvati river, not far from its junction with the CAUVERY. The town is called Tiruvānilai or Pasupati (the place of the sacred cow) in vernacular writings. The name Karūr means embryo town and is declared to have been given it because Brahmā began his work of creation here. For the same reason it is often called Brahmapuri in legendary native records. It was apparently a place of some importance as far back as the early centuries of the Christian era, for coins of the emperors Augustus, Tiberius and Claudius were found near it in 1806. Situated near the point where the territories of the rival CHERA, CHOLA, and PANDYA dynasties met, it probably also played a part in their ancient struggles. On the dissolution of the Vijayanagar empire in 1565, Karūr fell under the Naiks of Madura, but it was frequently attacked and occupied by the Mysore armies, and towards the end of the seventeenth century it was finally annexed to the latter kingdom and became its most important frontier post. In 1639 the Jesuits established a mission there. In later years the place constantly changed hands. In 1736 Chanda Sāhib besieged it unsuccessfully. In 1760 it was captured by the English in revenge for the assistance given by Haidar to the French. Orme describes the siege in detail. Karūr was held by them till 1768, when it was re-taken by Haidar, whose possession was confirmed by treaty in the following year. In 1783 Colonel Lang took and held the fort for a few months. There is a monument on the south bank of the river to the British troops who fell in this siege. It was a third time captured in 1790 by General Medows, and restored at the peace of 1792. It was garrisoned by the Company as a military station until 1801, and portions of the old fort still remain.

Karūr was formerly the head-quarters of the Sub-Collector. Besides the tahsildār, a District Munsiff and a stationary sub-magistrate are now stationed here. Being on the railway and at the junction of a number of roads, it possesses a considerable trade. Its chief drawback is its crowded site, which is surrounded entirely by paddy fields and the river. The only industry worth mentioning is the manufacture of brassware on a small scale. There are however two tanneries in the neighbourhood. The principal temple is a considerable edifice of some antiquity containing numerous inscriptions on stone.

Karūr was constituted a municipality in 1874. Its average annual income and expenditure during the ten years ending 1903 amounted to about Rs. 20,000. The receipts and expenditure in 1903-04 were Rs. 29,000 and 28,000 respectively, the former being chiefly derived from school-fees, the house and land taxes and tolls. It is a station of the Wesleyan Mission, which maintains two industrial schools here, one for boys and the other for girls. A drainage scheme estimated to

cost Rs. 95,850 has been framed for this municipality, but its execution has been postponed pending the introduction of a proper water-supply, plans for which are still under preparation.

Kollegāl Town.—Head-quarters of the tāluk of the same name in Coimbatore District, Madras, lying in the extreme north-west corner of the District, $12^{\circ} 10' N.$ and $77^{\circ} 7' E.$ Population 13,729 (1901). It is well-known for its gold-laced cloths and kerchiefs. Some of the silk cloths made here cost as much as Rs. 300 or even more according to the quantity and quality of the gold and silver embroidery, which, in the highest priced cloths, is woven in intricate and elegant designs into the texture of the cloth while still in the loom.

Mettupālaiyam.—A rising village in the tāluk and District of Coimbatore, Madras, situated on the banks of the BHAVANI at the foot of the Nilgiri hills in $11^{\circ} 19' N.$ and $76^{\circ} 58' E.$ Population 10,223 (1901). Being the terminus of the Nilgiri branch of the Madras Railway and the starting point of the ghāt road and rack railway which lead up those hills, it is a place of some importance and a deputy tahsildār is stationed at it. Owing to its situation, it is notoriously hot and unhealthy. A tannery here owned by a native firm employs some 60 hands daily and turns out annually nearly 85 tons of leather valued at over Rs. 50,000. There are more than a hundred dolmens in the fields round the place.

Palladam.—Head-quarters of the tāluk of the same name in Coimbatore District, Madras, situated in $11^{\circ} 0' N.$ and $77^{\circ} 17' E.$ Population 1,387 (1901). There are large tracts of black cotton soil in the neighbourhood and the town has three cotton presses. It also contains the ruins of an old fort.

Perūr.—Four miles from Coimbatore, in the District and tāluk of that name in the Madras Presidency, situated in $10^{\circ} 58' N.$ and $76^{\circ} 56' E.$ Population 1,636 (1901). It is sometimes called Chidambaram, the prefix *Mel* (western) being added to distinguish it from *Kīl* (eastern) CHIDAMBARAM in South Arcot. It contains a remarkable Hindu temple of great sanctity which enjoys the distinction, shared by few others, that Tipū spared both its buildings and its lands. Fergusson considers the date of the erection to be about the beginning of the eighteenth century, as a figure of a sepoy carrying a musket is sculptured in the porch in front of the shrine, and his costume and the shape of his weapon are exactly those found in contemporary pictures of the wars of Aurangzeb or the early Marāthās. He thinks that its completion was probably interrupted by the Musalmān usurpation in Mysore. The inner shrine is no doubt much older, as Perūr is a place of ancient sanctity. The modern portion of the temple is richly sculptured, but in a coarse and clumsy fashion in a rough material. For this reason the effect is disappointing, though no doubt the labour bestowed upon the building was immense. The priests declare that the principal portion of the temple was built by Alagādri Naik

¹ *History of Indian Architecture*, 1876, pp. 370-2.

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brother-in-law of Tirumala Naik of MADURA (1623-59 A.D.). An annual festival held here in the Tamil month of Mārgali (December-January) is very largely attended by the people of this and the Malabar Districts.

Podanūr.—A village four miles from Coimbatore in the District and tāluk of that name in the Madras Presidency, situated in $10^{\circ} 58' N.$ and $77^{\circ} 0' E.$ Population 6,568 (1901). It is the junction of the Nilgiri branch of the Madras Railway with the main line and the site of considerable railway workshops. It enjoys a cool and healthy climate. A sugar manufactory has been recently opened in it.

Pollāchi Town.—Head-quarters of the tāluk of that name in the south-west corner of the Coimbatore District, Madras, situated in $10^{\circ} 39' N.$ and $77^{\circ} 1' E.$ Population 8,958 (1901). Standing on the highway from the east to the west coast, it is now, and must always have been, an important market town. Traces of its early importance were found in 1800 in the shape of hoard of silver coins of the emperors Augustus and Tiberius. It has however no industry except agriculture. The Divisional Officer is stationed here. The hospital at Pollāchi is superior to the ordinary run of such institutions and has accommodation for 36 in-patients and a maternity ward. It was founded in 1858, the building being erected by private subscription, and has an endowment of Rs. 17,700. In the vicinity of the village are a number of interesting dolmens and rude stone circles which are termed by the people the graves of the dead. Several of them have been opened and have been found to be arranged in circles of diameters ranging from 10 to 45 feet, and to contain fragments of human skulls and bones, and occasionally broken pieces of earthenware and a few implements and ornaments. These objects were usually met with at a depth of from five to seven feet below the surface. Three bronze images of male and female figures were found, and that these are of non-Aryan origin is to be inferred from the position of the woman, who is seated at the right side of her husband instead of the left side, as in all Brāhmanical rites.

Satyamangalam.—Till recently the head-quarters of the tāluk of that name in the Coimbatore District, Madras, situated on the BHAVANI river at the foot of the northern Coimbatore hills in $11^{\circ} 30' N.$ and $77^{\circ} 15' E.$ Population 3,680 (1901). Though apparently never strongly fortified, it derived some strategical importance from the fact that it lies near the southern end of the Gazalhatti pass which was the ordinary route from Mysore to this District. Under the Naik dynasty of Madura it was the residence of a deputy governor. In the beginning of the seventeenth century it was the local head-quarters of the Jesuits of the District. It fell into the hands of the Mysore kings in 1653; was held by the British for some time after Colonel Wood's sudden but short occupation of the District in 1768; and was abandoned before Haidar's advance at the end of the same year. A ruined mud fort in the neighbouring pass was very bravely but unsuccessfully defended in this campaign by Lieutenant Andrews, who was killed by

the besiegers. The town was occupied by a division under Colonel Floyd during General Medows' campaign in this District in 1790, preparatory to a general advance into Mysore by the Gazalhatti pass. But Tipū descended the pass in September of that year, crossed the Bhavāni above Satyamangalam and fought two engagements with the British on the same day. In the first of these, a cavalry fight, the British were completely successful, and in the second, an artillery duel, they held their ground though they suffered severely. It was however decided not to risk a general encounter, and the place was abandoned by Colonel Floyd on the following morning.

Satyamangalam is now the head-quarters of a deputy tahsildār and stationary sub-magistrate. It is an ordinary market town without special features.

¹ **Sivasamudram** (Sea of Siva).—An island on the CAUVERY river situated in 12° 16' N. and 77° 13' E., in the Kollegāl taluk of the Coimbatore District, Madras. It has given its name to the famous falls of the Cauvery which lie on either side of it and which are referred to in the account of the river. The stream on both sides is very rapid and is fordable in only one place, and that with difficulty, even in the hot weather. The island is thus a place of great natural strength and was consequently in ancient days the site of a considerable town. Tradition ascribes the original foundation to a petty king from Malabar in the sixteenth century. His son and grandson held it after him and it was then deserted for some years until re-occupied by a Mysore chieftain called Ganga Rāya. Some picturesque stories were gleaned about him and his successors by Buchanan ² when he visited the place in 1800. They seem to have greatly extended the fortifications, remains of three lines of which still exist, to have built the temples and palaces with the ruins of which the island is strewn, and to have bridged the two arms of the river which surround it. The place only remained in their family for three generations, and they were then forcibly dispossessed by another local chieftain. The town shortly afterwards fell into ruins. In 1800 it was only inhabited by two Muhammadan hermits, other people being afraid of the devils and tigers which were declared to haunt it. In 1818 it was granted to a native gentleman named Rāmaswāmi Mudaliyār who cleared away the jungle with which it had become overgrown and re-built the old bridges leading to it. Two temples, which are elaborately sculptured and contain inscriptions, still stand on the island. There is also the tomb of Pīr Walī, an ancient Muhammadan saint, which is much revered by Musalmāns and is the scene of a large annual festival.

Tiruppūr.—Town in 11° 6' N. and 77° 22' E. in Palladam taluk, Coimbatore District, Madras. Population 6,056 (1901), of whom over one-fifth are Muhammadans. It is situated on the main line of the Madras Railway 30 miles from Coimbatore, and is a place of fair

¹ To be reproduced in the Mysore Provincial Volume.

² *Mysore, Canara and Malabar* (Madras, 1870), i, 406 ff.

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commercial activity. Being surrounded by cotton soil, it contains two cotton presses. A few palampores and chintzes are made; a cattle fair takes place in connection with its annual car festival; and the Government pony shows to encourage pony-breeding were until recently held here.

Udamalpet Town.—Head-quarters of the taluk of that name in the Coimbatore District, Madras, situated in $10^{\circ} 36' N.$ and $77^{\circ} 15' E.$ Population 10,503 (1901), of whom about one-eighth are Muhammadans. It is an important centre of the trade in cotton, grain and cloth; and its chief inhabitants belong to commercial classes such as the Komatis, Nattukottai Chettis and Muhammadans. Its blacksmiths are well known for their skill. A District Munsiff is stationed here.

SOUTH ARCOT DISTRICT.

Arcot, South (Arkat).—A maritime District, 5,217 square miles in extent, situate in the south-east of the Madras Presidency between $11^{\circ} 11'$ and $12^{\circ} 35' N.$ and $78^{\circ} 38'$ and $80^{\circ} 0' E.$ It gets its name from the fact that it was the southern portion of the Mughal Sūbah of Arcot, the name of which is supposed to be derived from *āru-kādu*, six forests, the province containing six forests in which six rishis are fabled to have dwelt. It is bounded on the east by the Bay of Bengal; on the south by Tanjore and Trichinopoly, from which Districts it is separated by the COLE-ROON and VELLAR respectively; on the west by Salem; and on the north by North Arcot and Chingleput. Within it lies the French Settlement of PONDICHERRY. On the west rise the KALRAYAN HILLS, a group between three and four thousand feet high connected with the SHEVAROYS, and further to the north-west is part of the JAVADI HILLS, the main portion of which is in North Arcot. Between these two groups the Chengam pass gives access to the Salem District and the PONNAIYAR runs down from the Mysore plateau and crosses the District on its way to the Bay of Bengal. In these western and north-western parts small rocky hills appear in isolated groups, the most remarkable being TIRUVANNA-MALAI (2,668 feet), an isolated peak with long sloping sides for the most part covered with jungle and accessible only on foot, but otherwise the whole District is a flat and open plain with a few sand ridges near the coast, and near Pondicherry and CUDDALORE, its head-quarters, some low plateaux of lateritic formation.

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ARCOT
DISTRICT.

Bounda-
ries, con-
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and hill
and river
systems.

The rivers of the District all flow from west to east into the Bay of Bengal. The chief of them is the Ponnaiyār already mentioned, which flows for 75 miles across it. It runs in a sandy bed with low banks, receives no tributaries of any importance within the District and finally falls into the Bay about three miles north of Cuddalore. North of this is the Gingee river, known also as the Varāhanadī, which rises in the Tindivanam taluk and flows into the sea near Pondicherry. South of it is the Gadilam, which has its sources in the Kallakurchi taluk, is principally supplied by the Malattār, a natural channel which connects it with the Ponnaiyār, is 59 miles in length,

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and runs into the Bay past the ruined bastions of FORT ST. DAVID, a mile north of Cuddalore and close to the mouth of the Ponnaiyār. In the extreme south the Vellār forms the boundary between South Arcot and Trichinopoly for some distance and then strikes into the former. It flows for 82 miles within the District and has a tributary of some importance, the Manimuktānadi, which drains the Vriddhāchalam tāluk. The Vellār meets the Bay at PORTO NOVO. Its banks are high and it is affected by the tide for about seven or eight miles above its mouth. The southernmost of all the rivers, the Coleroon, branches from the holy CAUVERY eleven miles above Trichinopoly, separates South Arcot from Tanjore for 36 miles of its length and falls into the sea three or four miles south of Porto Novo. These last two rivers are navigable for a short distance from their mouths by small boats; they were once connected by a shallow canal but this is now to a great extent silted up.

Botany.

The flora of the hills is almost entirely of the drier deciduous type, characterised by the abundance of sandalwood, *Zizyphus* and *Terminalia*, and, more rarely, teak and blackwood. Elsewhere distance from the sea and the absence or presence of cultivation are the determining factors in the nature of the plant growth. In the plain between the hills and the sea is the mixture of deciduous and ever-green flora usual in the southern Districts, while along the coast are the brackish-water forms in the salt marshes and the seaside flora along the beach. Some of these last are of great practical use in binding the sand, which would otherwise encroach upon cultivation. *Ipomœa biloba*, the seaside convolvulus, sometimes called the 'goat's foot creeper', and *Spinifex squarrosus*, a thorny grass the spiked, circular flower-heads of which become detached when the seed is ripening and roll along at a great pace before the wind, are conspicuous in this respect.

Geology.

The greater part of the District, including its central and north-western portions, is composed of archæan gneisses and schists with a large development of very massive gneissose granite with frequent large included blocks of more hornblendic rocks and bands of hypersthene granulite (charnockite). To the east and south-east rocks of cretaceous age appear in detached areas round Pondicherry and VRIDDHACHALAM. The Cuddalore sandstone of upper tertiary or younger age is about 100 feet thick and overlies to the east and unconformably each of the cretaceous patches. It consists of unfossiliferous ferruginous soft sandstones and grits. They are covered by a surface of low-level, ferruginous and often conglomeratic laterite. River, deltaic, and coast alluvium and blown sand occupy all the low-lying areas.

Fauna.

The hills contain a few leopards, bears, sāmbar, spotted deer and wild pig and the smaller game usual to such localities. In the low country are partridge, hares, quail, some peafowl and jungle-

fowl, rock pigeons, here and there a florican, numerous teal and wild-duck and an unusually plentiful supply of snipe. The principal kinds of sea-fish are the pomfret, the sole, the seer, the whiting, the *rubal* and the *vālai* (a species of *silurus*).

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The climate of South Arcot is fairly dry and on the whole healthy, though malaria is endemic in parts of the Kallakurchi, Vriddhāchalam and Tiruvannāmalai tāluks. Epidemic cholera is a frequent visitor and there is some elephantiasis along the coast. The temperature is moderate near the coast but rises slightly further inland. The mean of Cuddalore is 82°, the average maximum being 91° and the average minimum 74°.

Climate
and
tempe-
rature.

The District depends upon both monsoons for its rain. The average annual fall for the years 1870 to 1899 was 43 inches, the minimum being 25 inches in 1876, the year before the great famine, and the maximum nearly 72 inches in 1884, the year of the high floods referred to below. As in other east coast Districts, the fall is highest near the coast (52 inches), lighter in the central tāluks (45 inches), and smallest (39 inches) in the area further inland, the variation occurring chiefly in the supply received from the north-east monsoon.

Rainfall.

There were high floods in the Ponnaiyār in 1874, in the Vellār in 1871, in the Gadilam in 1864 and in the Coleroon in 1882. But the worst floods on record were those of 1884. In the four days from the 4th to the 8th November of that year no less than 32 inches of rain fell in Cuddalore and the Gadilam overflowed into both the Old and New Town there. In December of the same year, further heavy rain occurred, the fall on the 19th alone being fifteen inches. The Gadilam and Ponnaiyār both came down in flood and their streams joined and for 24 hours rushed through New Town, Cuddalore, to the sea. Both the Gadilam and the Ponnaiyār bridges near the town were partly swept away, the railway and telegraph lines were breached, several lives were lost, and it took the District ten or twelve years to recover from the damage done to its irrigation works, roads and bridges.

Like the rest of the shore of the Bay of Bengal, South Arcot is notorious for severe storms and perhaps no coast in the world of equal length has proved so disastrous to the British navy as that of this District. The hurricane of 13th April 1749 wrecked three vessels between Cuddalore and Fort St. David. One of them was a sixty-gun ship and another was Admiral Boscawen's flagship, 74 guns. With the latter 750 men perished. A cyclone in December 1760 scattered the blockading fleet in the Pondicherry roads and three of the King's ships were stranded and three more foundered with 1,100 Europeans on board. During a hurricane in October 1763, three of the King's ships were dismasted. There were also

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violent storms on the coast in 1752, 1784, 1795, 1808, 1820, 1831, 1840, 1842, 1853, 1871 and 1874. In the storm of 1853 seven vessels were wrecked between Cuddalore and Porto Novo, besides native craft.

History.

The early history of the District probably resembled generally that of the rest of the CHOLA country. It seems to have been under the Chola sovereigns from the earliest period of their supremacy, though it is possible that portions of the north fell into the hands of the Pallavas of Kānchi or Conjeeveram. From the thirteenth century it appears to have followed the fortunes of Tanjore. Towards the close of the fourteenth century inscriptions in the District mention four chiefs calling themselves Udaiyār. One of them seems to have been conquered by the Vijayanagar king Harihara II, an inscription in whose name, dated in A.D. 1382, has been found. About 1646 the District passed under the Bijāpur Sultāns from whom, thirty years later, it was wrested by Sivajī, the founder of the Marāthā power in India. With the fall of GINGEE, in 1698, the imperial Maghals succeeded the Marāthās as masters of the country. The British connection dates from 1674, when its Bijāpur ruler invited the Governor of Fort St. George to establish factories in his territories. Negotiations were immediately opened, but no active steps were taken till 1682, when a settlement was made at Cuddalore. This proving unfortunate, another was established at Kūnimedu, a village about twelve miles north of Pondicherry. In 1683, the Cuddalore factory was re-occupied and a fresh station was also founded at Porto Novo. The latter, however, was closed in 1687, the year in which the deed of grant for all the three factories was received from Harji Rājā, the Marāthā governor of Gingee. In 1690, Fort St. David, about a mile north of Cuddalore, with all the country "within the randome shott of a great gun" round about it, was purchased from the Marāthās and the effects at Kūnimedu and the other factories were removed to it. The villages so acquired are known to this day as the cannon-ball villages. On the capture of Fort St. George in 1746 by the French Admiral La Bourdonnais, Fort St. David became, for six years, the head-quarters of the Company on the COROMANDEL COAST. During the Carnatic wars of 1749-61, when the English and the French first interposed in the internal politics of India, South Arcot played an important part, Cuddalore, Fort St. David, Gingee, Tyāga Durgam, Vriddhāchalam, Tiruvannāmalai and other places being the objects of repeated attacks and counter-attacks by the French and the English. In 1758, Cuddalore and Fort St. David were taken by the French and the fortifications of the latter were almost levelled to the ground. In 1760, however, Sir Eyre Coote, after his great victory over the French at WANDIWASH, retook Cuddalore and the French abandoned Fort St. David on his advance.

In 1767 Haidar Ali, who had by this time usurped all sovereign authority in Mysore, entered the CARNATIC by the Chengam pass in the north-west corner of the District, but he was completely defeated by Col. Joseph Smith both there and again at Tiruvannāmalai. In 1780, he again entered the District by the same route. Some fighting took place at Cuddalore, TYAGA DURGAM and CHIDAMBARAM, but the most decisive battle in the campaign occurred at Porto Novo. Haidar was signally defeated by Sir Eyre Coote, and the victory did much to save the entire Presidency. In 1782, however, Cuddalore was again taken by the French; and on the cessation of hostilities in 1784 was again restored to the British. In 1790, Tipū, the son of Haidar, made a demonstration before Tyāga Durgam and took Tiruvannāmalai and Perumukkal, about five miles to the east of Tindivanam, treating the inhabitants of the former with the greatest cruelty. But his further progress was checked by the news of Lord Cornwallis's advance into Mysore, to meet which he promptly quitted the Carnatic.

The District passed under English management for the first time in 1781, when, during the war with Haidar, the Nawāb of Arcot assigned the revenues of the Carnatic to the English. In 1801, with the rest of the Carnatic, it was ceded in full sovereignty to the British by the Nawāb, Azīm-ud-daula. On the outbreak of the war between England and France in 1792, Pondicherry was taken without difficulty by the English (1793) and formed part of the District till the close of 1816, when it was finally restored to the French.

Prehistoric dolmens are found in parts of Tiruvannāmalai and Tirukkoyilūr tāluks. They are chambers formed of six granite slabs with a circular hole some eighteen inches in diameter on the eastern side, and some of them are as large as six feet by eight feet, and seven feet high. They contain the usual pottery, bones, and implements and the usual local legend explains that they were the homes of a race of dwarf rishis, 60,000 strong. In the middle of one large group of them at Devanūr near TIRUKKOYILUR, stands a huge slab of granite fourteen feet high, eight feet wide, and six inches thick which is locally known as the *kacheri kal* or stone of audience. Other antiquities are the temples at Chidambaram, Tiruvannāmalai, Vriddhāchalam and SRIMUSHNAM. Military architecture is represented by the famous old rock stronghold of Gingee and by Tyāga Durgam, a rock-fortress which commands the Atūr pass into the Salem District.

Archæ-
ology.

South Arcot contains 2,745 villages and 10 towns, but only seven per cent. of the people live in the towns and three-fifths of them reside in medium-sized villages of from 500 to 2,000 inhabitants. The people.

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The District is divided into eight tāluks particulars of which, according to the census of 1901, are appended :—

Tāluk.	Area in square miles.	Number of		Population.	Popu- lation per square mile.	Percentage of variation in popula- tion be- tween 1891 and 1901.	Number of per- sons able to read and write.
		Towns.	Villages.				
Tindivanam ...	816	1	473	388,973	415	+ 7·3	22,246
Tiruvannāmalai	1,009	1	400	244,085	242	+ 18·8	18,518
Villupuram ...	509	1	300	313,607	616	+ 3·9	22,895
Tirukkoyilūr ...	584	1	350	285,068	488	+ 9·2	17,609
Kallakurchi ...	873	...	367	269,377	309	+ 12·5	11,991
Cuddalore ...	448	3	224	361,776	808	+ 7·3	31,755
Chidambaram ...	402	2	336	294,868	734	+ 4·5	29,129
Vriddhāchalam	576	1	295	242,140	420	+ 10·2	17,603
District Total ...	5,217	10	2,745	2,349,894	450	+ 8·6	166,746

These are named after their respective head-quarters. The total population in 1871 was 1,755,817; in 1881, 1,814,738; in 1891, 2,162,851; and in 1901, 2,349,894. The chief towns are the three municipalities of CUDDALORE (population 52,216), CHIDAMBARAM (19,909) and TIRUVANNAMALAI (17,069). South Arcot is below the average in area but in the number of its inhabitants and the density of its population, it stands third and fifth respectively among the Districts of the Presidency and despite the fact that it was severely affected by the great famine of 1876 and notwithstanding the constant stream of emigrants who have left it to cross the seas, especially to the Straits and Burma, the population has increased by 34 per cent. since the census of 1871, the corresponding increase for the Presidency as a whole being 22 per cent. In the decade 1891-1901, the sparsely-peopled areas of Tiruvannāmalai, Kallakurchi and Vriddhāchalam exhibited a marked advance. About 94 per cent. of the population are Hindus, the remainder being about equally divided between Musalmāns and Christians. The District also contains (chiefly in the Tindivanam tāluk) 5,896 Jains, which is a larger number than is found in any other District of the Presidency except South Kānara and North Arcot. Tamil is the vernacular of all the eight tāluks.

Their
castes.

Like most of the southern Districts, South Arcot contains a sprinkling of Telugu castes, such as Kāpu and Kamma cultivators, Baliḷā and Komati traders, earth-worker Oddes and cobbler Chakkiliyans, but the great mass of the people are Tamils. The most striking fact about the population is that a larger portion of it than in any other District consists of Pallis and Paraiyans, who usually belong to the agricultural-labourer class. More than a fourth of all the Pallis and Paraiyans in the Presidency are found in South

Arcot and they number respectively 728,000 and 556,000 and together constitute more than half the population of the District. Next in numbers come the Vellālas (146,000), the great Tamil cultivating caste, and the Idaiyans (104,000) who are shepherds. A somewhat curious community are the Malaiyālis of the Javādi and Kalrāyan Hills. They appear to be Tamils who have taken refuge there at some period or other and whose customs have been affected by their environment. The jungle tribe of the Irulas occurs in places, but some of its members have settled down in the villages and work as coolies.

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As a consequence, probably, of the large proportion of the people consisting of the agricultural and pastoral classes, the population of South Arcot depends more exclusively upon cultivation and the tending of flocks and herds than that of any other area in the Province except the Agencies of the three northern Districts, 82 per cent. of the inhabitants subsisting by these callings. It is also noticeable that of the land holders and tenants more than 99 per cent. (or 56 per cent. of the entire population) returned themselves at the 1901 census as actual cultivators as distinguished from mere holders of land, and that there were 92 land-owners to every eight tenants. Seeing that Pallis and Paraiyans include more than 50 per cent. of the population, the inference appears to be that these castes are rising from their former position of agricultural serfs to be holders of land of their own.

Their
occupa-
tions.

Of the Christians of the District, 92 per cent. are Roman Catholics. The Catholic mission, an off-shoot of the famous Madura mission, is the oldest. After working for several years in the Gingee country, its members built the first Roman Catholic Church at Cuddalore Old Town in 1692. They underwent many calamities during the wars of the Carnatic between 1749 and 1761. The next oldest mission is the Danish Evangelical Lutheran, established in 1737 by the Society for the Propagation of Christian Knowledge. This also suffered greatly during the wars between the English, the French and Mysore. It suspended its work in 1807, but has been since revived by the Society for the Propagation of the Gospel. This body began work in 1825, the Leipzig Evangelical Lutheran Mission in 1851, the Danish Mission in 1861, the Society of the Reformed Church of America in 1868, and the Highways and Hedges Mission in 1882.

Christian
missions

Two-thirds of the land of South Arcot is of the red ferruginous variety and nearly all the remainder is black cotton soil. Sandy earth occurs only in comparatively small areas near the coast, and is useful for little but growing cashew and casuarina trees. The red variety predominates everywhere except in the southern taluks of Chidambaram and Vriddhāchalam, where the black cotton land (which is esteemed the better of the two) covers about 70 per cent. of

General
agricul-
tural con-
ditions.

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the arable area. The red soil is best for dry crops and the black, owing to its retentiveness of moisture, for wet cultivation. Vriddhāchalam contains good soil but has less tank or channel irrigation than any other tāluk, and as water is not found near the surface, wells are scarce. The tāluk is thus backward. Kallakurchi, Tiruvannāmalai and Tindivanam tāluks on the west and north, which are mainly covered with the poorer red soil, possess a large number of rain-fed tanks and irrigation wells. Tindivanam contains about one-fourth of the tanks and wells in the District and the number of wells in the other two tāluks more than doubled in the decade ending 1900-01. In the centre of the District, Tirukkoyilūr depends chiefly upon canals and tanks and Villupuram upon tanks and wells. Nearly all the irrigation from the river-channels is in the two southern tāluks of Cuddalore and Chidambaram.

The busiest sowing months for the dry land, where light showers are enough to start a crop, are from July to October and the wet land is chiefly cultivated between September and November.

Cultiva-
tion and
crop
statistics.

The 5,217 square miles of which the District consists are nearly all ryotwāri, the zamīndāri and whole inām lands covering only 349 square miles. The area for which statistical particulars are available is 4,885 square miles, which in 1903-04 was distributed as follows among the eight tāluks:—

Tāluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irrigated.
Tindivanam ...	817	49	31	500	180
Tiruvannāmalai ...	922	312	82	379	78
Villupuram ...	506	25	23	351	109
Tirukkoyilūr ...	573	76	28	336	93
Kallakurchi ...	650	91	96	322	75
Cuddalore ...	437	33	23	305	76
Chidambaram ...	402	13	11	306	188
Vriddhāchalam ...	578	55	23	346	43
District Total ...	4,885	654	317	2,845	792

The principal food-grains are paddy, *cambu* (*Pennisetum typhoides*), *varagu* (*Paspalum scrobiculatum*) and *rāgi* (*Eleusine coracana*), the areas under which in 1903-04 were 907, 475, 414 and 215 square miles respectively, or 31, 16, 14 and 7 per cent. respectively of the total area cropped. Paddy is grown extensively in all the tāluks, but particularly so in Chidambaram, which contains one-fourth of the area under it within the District. Elsewhere *cambu*, *varagu* and *rāgi* form the chief staples. Fruit-trees and vegetables occupy a considerable area in Cuddalore, Tindivanam, Villupuram and Chidambaram tāluks, and in the last of these a large extent is cultivated with vegetables. Ground-nut (*Arachis hypogaea*) is by

far the most important industrial crop. More than two-thirds of the whole area under it in the Presidency lies in this District and it occupies as much as 20 per cent. of the net area cropped. It is grown principally in Tindivanam, Villupuram, Tirukkoyilūr and Cuddalore and is exported to France from the ports of Cuddalore, and Pondicherry. Gingelly is grown all over the District but chiefly in Vriddhāchalam, Villupuram and Cuddalore, and indigo still covers considerable areas in the two last of these tāluks and Tindivanam and Tirukkoyilūr.

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The extension of the area of holdings has amounted to about 28 per cent. in the last 30 years, but considerable tracts in Tiruvannāmalai and Kallakurchi tāluks are still unoccupied. Little has been done to improve the quality of the crops grown except in the case of ground-nut. The cultivation of this fell off considerably some years ago owing to the deterioration of the local seed, but the recent introduction of fresh seed from Mauritius improved the standard and resulted in a great extension of the area under it. The cultivation of indigo has of late declined owing to the competition of the German synthetic dye. In the sixteen years since 1888 more than three lakhs have been advanced in the District under the Land Improvement Loans Act, chiefly for the sinking and repairing of wells in Tiruvannāmalai and Kallakurchi, where the ryots have largely availed themselves of the benefit of the specially favourable terms which have been introduced to encourage well-sinking.

Improve-
ments in
agricul-
tural
practice.

The indigenous cattle are of no particular breed and are not remarkable. The western tāluks, with their large areas of waste land and forest, are used as a grazing ground for the cattle and sheep of Tanjore and other neighbouring areas. A very large cattle fair is held at Tiruvannāmalai during the annual Kārtigai festival and animals are brought there in large numbers from Mysore and other places. Two kinds of sheep are bred, the Kurumba or woolly variety and the Semmeri or brown, hairy breed. The former is chiefly reared for its wool and the latter for its flesh. Goats are valued for their skins but their numbers have recently decreased, owing perhaps to the closing to them of the reserved forests. Working cattle are fed on paddy-straw and *cambu* and *rāgi* stalks. The ryot is well aware of the value of the manure of all these animals and they are commonly penned in the fields at night.

Cattle and
sheep.

Except in Tiruvannāmalai there is considerable irrigation in all the tāluks and the District as a whole is one of the best watered areas in the Presidency, as much as 792 square miles, or 32 per cent. of the total area of ryotwāri and minor inām land cultivated, having been irrigated in 1903-04. It contains 87 dams, 205 river channels, 197 spring channels and 3,243 tanks, besides 100,720 wells.

Irriga-
tion.

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Next to North Arcot, the District contains the largest number of wells in the Presidency. Of the total area irrigated 487 square miles is supplied from tanks, 167 by Government canals and 112 by wells. The best watered táluk is Chidambaram, which is served by the systems of channels depending on the Lower Anicut on the Coleroon and the Shatiatope dam across the Vellár, which are the two best irrigation sources in the District. The Virānam tank under the Lower Anicut is the largest reservoir in the Presidency. The irrigation system which stands next in importance after these two takes off from the dam across the Ponnaiyār at Tirukkoyilūr, and to this most of the fertility of the Tirukkoyilūr and Villupuram táluks is due. The areas watered by these three important systems in the year 1903-04 were respectively 85,000, 34,000 and 28,000 acres. There are also three dams across the Gadilam and one at Pelāndorai on the Vellār but they are of less value. The former supplement irrigation in the Cuddalore táluk and the latter supplies parts of the Vriddhāchalam and Chidambaram táluks. The numerous tanks (artificial reservoirs) form the chief source of irrigation, and, though comparatively unimportant individually, nevertheless supply nearly half the wet area in the District, an extent even larger than that fed by the channels. Most of them are small affairs under the control of the Revenue department but in the aggregate they are as important as in almost any District and about Rs. 50,000 is annually spent upon their upkeep.

Forests.

The forests of South Arcot are not at present important as timber-producing areas as they had been completely degraded before conservation began, but they have capabilities. As the figures already given show, nearly half the total area lies in the Tiruvannāmalai táluk. These are largely the forests on the spur of the Javādis, called the Tenmalais, which runs down into the District. The next largest area is in Kallakurchi. The forest on these low hills resembles other growth of the same elevation, while elsewhere are found sea-shore casuarina plantations and swamps of the mangrove-like *Avicennias*. There are no areas of waste land that can be called real forest and for the most part more or less permanent cultivation marches with the limits of the reserves. The total includes about 14 per cent. of the District area, and nearly three-tenths of it consist of the hill forests already referred to and a large block of 76 square miles of broken ground on the banks of the Ponnaiyār where it emerges from the Salem District. The balance is divided into 144 blocks scattered all over the District and consisting mainly of the poorest and most open scrub.

The forests are principally used at present for grazing and are annually resorted to by about 139,000 cattle and 149,000 sheep. Goats used to overrun the reserves completely, but their numbers

have been considerably reduced in recent years. A limited amount of firewood and of very small and inferior timber is consumed and a large quantity of leaves for manure. Minor products are collected to the value of Rs. 17,600.

The hill forests contain the better species of timber trees usually found in this part of the Presidency, viz., teak, rosewood, *vengai* (*Pterocarpus Marsupium*), *Terminalia tomentosa*, *Hardwickia binata* and *Anogeissus latifolia*, and will afford timber again in course of time. In a limited area on the small plateau of the Tenmalais sandalwood is very common and will be workable again in a few more years.

Besides the reserved forest, a notable stretch of forest land in the west consists of the eastern part of the Kalrāyan Hills reaching an average height of 2,500 feet. With the exception of a small area of outlying slopes on the north and east, the whole of this tract, or an area of about 200 square miles, is jāgīr land and under no control at all. It drains to the north into the Ponnaiyār and south-east into the Vellār and is an important source of water-supply for the neighbouring plains, but is very much degraded by *punalkādu* (shifting cultivation and burning) and general fires, and is gradually getting worse.

The District is not specially noted for any mines or minerals. Minerals. The iron ores of Kallakurchi, Tiruvannāmalai and Tirukkoyilūr tāluks attracted considerable attention in the beginning of the last century. In 1830 Mr. Heath of the Madras Civil Service succeeded in establishing the Porto Novo Iron Company the object of which was to manufacture bar iron from these ores. It erected extensive works at Porto Novo and later at Tiruvannāmalai, but the enterprise failed after a protracted trial of many years and the company was finally wound up in 1867. The chief trouble was the scarcity of fuel. Other drawbacks were technical difficulties in producing iron free from flaws. The melancholy history of the enterprise is set out in detail in the *Gazetteer* of South Arcot.

Fine-grained sandstones are found in Vriddhāchalam and blue limestones containing fossil shells in the Tindivanam tāluk. The southern bank of the Gadilam river near PANRUTI is noted for its plastic clay and the hills of Gangavaram, Gingee and Tyāga Durgam for very handsome granitoids susceptible of a high polish. In and near Tirukkoyilūr and Tiruvannāmalai and in Tiruvakkara in the Villupuram tāluk, excellent granite is quarried and utilised by the Nāttukottai Chettis in the repairs they are carrying out in the temples at Chidambaram, Tiruvannāmalai, Tiruvannanallūr and other places.

Indigenous arts or manufactures are of no particular importance; but the steam sugar factories at NELLIKUPPAM and Tiruvannanallūr and the distillery at the former place belonging to the East India Distilleries and Sugar Factories Company (capital

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£400,000) provide employment on an average for 1,050 hands daily. Indigo, salt, jaggery (coarse sugar), pottery, oils and cotton fabrics are also largely manufactured. In 1901, there were 567 indigo-vats in the District, and in the manufacturing season these provided work for about 4,800 persons daily. But, owing to the competition of the artificial dye, this industry is on the decline. It is hoped in some quarters that the excellence of the natural indigo and the solidity it gives to the cloth may perhaps re-establish it in the European market if only the primitive methods for extracting the dye can be replaced by an improved and cheaper process. In the coast taluks of Tindivanam and Cuddalore, salt is extensively manufactured in Government salt-pans; jaggery is made in several places, and the revival in recent years of the cultivation of ground-nut has given a great stimulus to the manufacture of oil, which is chiefly extracted from ground-nut and gingelly (*Sesamum Indicum*) seeds. In Panruti fine pottery and excellent earthen toys are made. The weaving of pure silk is carried on in Chidambaram taluk. Weaving in cotton mixed with silk is practised in a number of villages round Bhuvanagiri, Chidambaram and Mannārgudi in the Chidambaram taluk and in Panruti, Kurinjippādi and Chennappanāyakkannpālaiyam in the Cuddalore taluk. The *kailis* made in these villages are exported to the Straits Settlements and the other fabrics are used locally and also exported to Mysore, North Arcot and Chingleput. In the Tiruvannāmalai, Vriddhāchalam and Kallakurchi taluks, coarse woollen blankets are made by the Kurumba caste.

Com-
merce.

South Arcot is a maritime District and has two ports, Cuddalore and Porto Novo. The former is far the more important and almost the whole sea-borne trade of the District is carried on through it. The total value of the imports and exports by sea during 1903-04 was twenty lakhs and 137 lakhs respectively. The chief exports are ground-nuts, oil-cake, cotton piece-goods, skins, rice, ground-nut oil, fresh vegetables, turmeric, tobacco and cigars, chillies, coriander and castor. Indigo was exported in large quantities until recently, but now, owing to low prices and especially to the continued fall in the foreign market, only a nominal trade in it continues with Europe. The District does the largest trade in ground-nuts in the Presidency. France is its most valuable customer and took as much as 60 lakhs worth in 1903-04 out of a total export valued at 78 lakhs. Ground-nuts were also sent to the United Kingdom, Germany and Austria. Ground-nut oil and oil-cake, cotton piece-goods (especially those known as *kailis*) and skins are chiefly exported to the Straits Settlements. Rice is sent mainly to Ceylon. The principal imports direct into the District by sea are areca-nut from the Straits Settlements and palmyra-timber from Ceylon for house-building purposes. Except in articles which are

collected for export by sea, the inland trade of the District is small. The chief exports by land are sugar from the factories at Nellikuppam and Tiruvannanallūr, salt from the Merkānam and Cuddalore factories, jaggery, paddy, indigo and woollen blankets. The main imports are cattle from Mysore and other parts, fruit and vegetables from Salem and North Arcot, and many foreign-made articles from Madras. Cuddalore and Panruti are the chief centres of general trade. Pondicherry, though situated in French territory, is, for purposes of trade, practically part of the District, and the native merchants there do a very large portion of its business. The chief trading castes are the Chettis of different classes. The Nāttukottai sub-division of this caste are the chief money-lenders. Most of the internal trade is carried on at the weekly markets, the largest of which are those at Panruti and Tirukkoyilūr, and at the fairs held during the festivals at Tiruvannāmalai, Vriddhāchalam, Chidambaram, Maillam and other places.

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The metre-gauge South Indian Railway from Madras to Tuticorin enters the District at Olakkūr and runs across the tāluks of Tindivanam, Villupuram, Cuddalore and Chidambaram for a distance of 88 miles, passing through the ports of Cuddalore and Porto Novo. A branch from VILLUPURAM, opened in 1879 and 24 miles in length, communicates with the French Settlement of Pondicherry. The line from Villupuram to Dharmavaram in the Anantapur District, constructed in 1892, passes through Tirukkoyilūr and Tiruvannāmalai tāluks for a distance of 52 miles and opens up a tract of country which was formerly liable to scarcity of food-stuffs. The only tāluks in the District which are not served by any railway are Kallakurchi and Vriddhāchalam; but the construction of the Trichinopoly-Tirukkoyilūr chord line, now under contemplation, will remove this want and place the District in closer communication with the fertile delta of the Cauvery and other food-producing tracts. This new line will cross diagonally the rough quadrilateral of about 100 miles square which is bounded by the towns of Jalārpet, Cuddalore, Tanjore and Erode, will be some 96 miles in length and will effect a saving of 37 miles in the present route between Trichinopoly and the north. If, as has been suggested, it is continued northwards to Arkonam, and constructed on the standard gauge, it would connect the District directly with the broad-gauge systems in the north of the Province.

Railways
and
Roads.

With the exception of the northern half of Kallakurchi and the western half of the Vriddhāchalam tāluk, the District is well provided with roads. The total length is 1,218 miles, of which 901 are metalled and 317 are unmetalled. Eleven miles of the former and 66 miles of the latter are maintained by the Public Works department and the rest are in charge of the local boards. There are avenues along 1,080 miles. The coasting steamers of the

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British India Steam Navigation Company touch periodically at Cuddalore.

Famine.

South Arcot is not frequently exposed to famine as it contains large irrigation works and ample means of external communication, but scarcity is often felt when there is a general failure of food-crops due to deficiency in the local rains, and high prices caused by distress elsewhere naturally re-act upon the District.

The year 1806-07 was a disastrous season and the distress which occurred necessitated the opening of relief-works and the remission of revenue amounting to $6\frac{1}{4}$ lakhs. There was distress in 1823-25 and in 1833-34, the year of the Guntūr famine, the prices of grain doubled, 18,000 persons were employed on relief-works, and large remissions were again necessary. In the famine of 1866 relief-works were also opened in this District and prices continued high till 1868. The drought in 1873-74 caused the loss of much of the dry crops. In 1876-78, the years of the great famine, South Arcot was more severely affected than ever before or since; relief-works were opened and the number of persons employed in them at the height of the distress (September 1877) was as large as 88,000, or nearly six per cent. of the total population. The prices of grain went up to a level which was unprecedented and on Christmas Day 1876 the distressed people of Cuddalore town looted the bazars and caused a serious riot. The total amount spent on gratuitous relief and on relief-works was $9\frac{1}{4}$ lakhs. During the decade ending with 1900-01 there was no famine in the District, but failure of local rains in 1891-92 and 1898-99 created distress in parts of Kallakurchi, Tirukkoyilūr, Tindivanam, Cuddalore and Chidambaram tāluks.

District
sub-divi-
sions and
staff.

For general administrative purposes, the District is divided into four sub-divisions, one of the officers in charge of which is usually a member of the Indian Civil Service the others being Deputy Collectors recruited in India. These sub-divisions are Tindivanam, comprising the Tindivanam, Tiruvannāmalai and Villapuram tāluks; Chidambaram, which includes Chidambaram and Vriddhāchalam tāluks; Tirukkoyilūr consisting of Kallakurchi and Tirukkoyilūr tāluks; and Cuddalore, which contains only the Cuddalore tāluk. A tahsildār is posted to the head-quarters of each of the tāluks and, except in the case of Kallakurchi, is assisted by one or more deputy tahsildārs. There is also a stationary sub-magistrate at each head-quarter station. The District contains the usual superior officers.

Civil Jus-
tice and
Crime.

For the purposes of civil justice, a District Munsiff holds his court in each tāluk except Tiruvannāmalai and Kallakurchi, while Cuddalore has two. There are no Subordinate Judges and all appeals from the District Munsiffs lie to the District Court, which is also the Court of Sessions. In the matter of grave

crime, the District ranked eleventh in the Presidency in 1904. Murders are not common. Ordinary thefts form a large percentage of the serious crime. Cattle thefts, robberies and dacoities are also of frequent occurrence, though the number of these fluctuates, as elsewhere, with the state of the season. The perpetrators of a large proportion of the robberies and dacoities are the thieving class known as the Veppūr Paraiyans, who live in Veppūr in the Vriddhāchalam tāluk and in a number of villages round about it. They sometimes join the thieving Kuravans of the Salem District. A large percentage of the cases of theft in Tirukkoyilūr, Kallakurchi and Vriddhāchalam tāluks are not reported to the police and the owners eventually get back their property by paying a sum of money, the amount of which depends upon the value of the property lost, to well known go-betweens who are often the descendants of former robber chiefs and are still known locally as poligārs. This practice is exceedingly difficult to break down. The proximity of Pondicherry affords considerable facilities to bad characters in evading arrest and renders the work of the police more than usually difficult.

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The revenue administration of the District passed into the hands of the East India Company along with the rest of the Carnatic in 1801. Prior to that, the Company possessed a small tract of territory round Fort St. David which was known as the District of Cuddalore. The revenue of this territory was generally farmed out to renters. The land appears to have been divided into paddy and small grain land, but the assessment levied on each kind is not now ascertainable and the determination of the exact rates was probably left to the renters. Apparently these were moderate, as previous to the Mysore wars the country is stated to have been in a highly prosperous state.

Land
Revenue
adminis-
tration.

Little is known of the revenue history of the rest of the District either under the Hindu Rājās or the Muhammadan rulers till the time of Nawāb Muhammad Alī, when the famous Rāyoji, the Nawāb's manager, first fixed the revenue by measuring the fields and conducting a rough survey. For some years Rāyoji collected the revenue without the intervention of renters. Afterwards he was himself appointed by the Nawāb the renter of the whole Sūbah (the assessment payable by him being 13½ lakhs of pagodas) and he continued as such until his death in the war with Haidar Alī. Under Rāyoji's settlement wet land paid an assessment in kind and dry and garden land paid a money rent the amount of which depended on the crops raised. The assessment in kind was converted into money at the average selling price before it was collected.

The system of farming the revenue and the rates of assessment introduced by Rāyoji were continued for some time after 1801 by

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British Collectors. In 1802-03 Mr. Garrow made the first attempt, which partly succeeded, to effect a settlement of the demand with individual ryots. In 1804-05, the Districts of Mannārgudi and Chidambaram were annexed. A systematic survey and settlement was introduced by Mr. Ravenshaw in 1806-07 in a major portion of the District as then constituted. In 1808, in accordance with the policy of a permanent settlement which had come into favour, whole villages were leased out to renters for a period of three years for a fixed sum. As elsewhere, this system proved a failure. In the same year, the District of Cuddalore was incorporated with that of South Arcot and some of its northern tāluks were transferred to the Chittoor and Chingleput Districts. In 1811, the triennial leases were replaced by decennial leases, but these also proved a complete failure. The Board of Directors eventually recorded their disapproval of the lease system and of a permanent settlement and consequently the ryotwāri settlement was restored in 1821. Four years later, the system of annual settlements and the collection of the revenue in instalments somewhat on the lines now in force was adopted, and in the same year the survey and settlement first partially introduced by Mr. Ravenshaw were extended to the rest of the District. The rates which this officer had fixed were, however, found to be very high and in 1854 revised rates which were more favourable to the cultivators were introduced while Mr. Maltby was Collector. The area under cultivation then increased enormously. In 1859, the rates of assessment on dry land were reduced still further. In the same year part of the Chetput tāluk was transferred to the North Arcot District and South Arcot assumed its present dimensions. Mr. Maltby's settlement continued till 1883, when a new survey and a re-settlement were begun which were completed in 1894. The survey found that the occupied area had increased by 7 per cent. on the extent shown in the old accounts and the settlement enhanced the total revenue by 3 per cent. or a little more than a lakh of rupees. The average assessment on dry land is now Rs. 1-3-4 (maximum, Rs. 3-8-0 ; minimum, 6 annas) and on wet land Rs. 5-6-0 (maximum, Rs. 9 ; minimum, Rs. 2). The revenue from land and the total revenue in recent years are given below in thousands of rupees :—

—			1880-81.	1890-91.	1900-01.	1903-04.
Land revenue	...	...	3,502	3,965	4,601	4,957
Total revenue	...	...	4,148	5,212	6,040	7,167

Local
boards.

Local affairs, excluding those in the municipal towns, are under the management of the District board and the four tāluk boards of Cuddalore, Chidambaram, Tirukkoyilūr and Tindivanam, the areas controlled by which correspond with those of the four administra-

tive or revenue sub-divisions of the same names. The expenditure of these boards in 1903-04 was about 4.92 lakhs of which about 58 per cent. was laid out on roads and buildings. The chief source of income was, as elsewhere, the land-cess. There are 21 Union panchāyats, which manage the affairs of the same number of the smaller towns.

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Police administration is in charge of a District Superintendent of Police at Cuddalore aided by an Assistant Superintendent stationed at Tirukkoyilūr. There are 86 police-stations and the force in 1904 numbered 17 inspectors, 796 constables and 124 head-constables, and also 2,043 rural police. Besides the Cuddalore District jail, seventeen subsidiary jails can accommodate 337 prisoners, male and female.

Police
and Jails.

South Arcot stands ninth among the 22 Districts of the Presidency in regard to the literacy of its male population and twelfth in that of its female inhabitants, 13.8 per cent. of the former and .5 per cent. of the latter, or 7.1 per cent. of the total being able to read and write. Education is most advanced in Cuddalore and Chidambaram tāluks and most backward in Kallakurchi and Tiruvannāmalai. The District is the only one in the Presidency in which the Christians are worse educated than either the Hindus or the Muhammadans. At the end of 1903-04 the District contained 1,540 educational institutions of all kinds, of which 1,178 were public, and the remainder private. Of the former, 1,141 were primary schools, secondary institutions numbered 29 and there were seven training and other special schools and an arts college at Cuddalore. In the public and private institutions taken together, 4,476 girls were under instruction. The total number of pupils reading in the District in 1880-81 was 15,302; in 1890-91, 32,189; in 1900-01, 44,215; and in 1903-04, 48,271. Of the 1,178 public institutions, 16 were managed by the Education department, 99 by the local boards and 11 by the municipalities, while 530 were aided from public funds and 522 were unaided but conformed to the rules of the Education department. Only 6 per cent. of the boys and 18 per cent. of the girls under instruction have advanced beyond the primary classes. Of the male population of school age 20 per cent. were in the primary stage of instruction and of the female population of the same age 2 per cent. Among Musalmāns, who however form a very small proportion of the population, the percentage of the scholars of each sex to the male and female population of school-going age was 50 and 6 respectively. About 4,000 Panchama pupils were under instruction at 168 schools especially maintained for their education. The single arts college, which is of the second grade, is the St. Joseph's College in Cuddalore. The total expenditure on education in the District in 1903-04 was Rs. 2,39,000, of which Rs. 92,000 was derived from fees. Rs. 1,48,000, or 62 per cent. of the total, was devoted to primary education.

Educa-
tion.

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—
Hospitals
and dis-
pensaries.

There are eight hospitals and sixteen dispensaries in the District. The former are situated at the taluk head-quarters and the latter are mostly at the deputy tahsildars' stations. They contain 140 beds for in-patients; 1,700 in-patients and 248,000 out-patients were treated during 1903 and 9,100 operations were performed. The total cost of the maintenance of these institutions was Rs. 55,000 in the same year, most of it being met from local and municipal funds.

Vaccina-
tion.

The figures of 1903-04 show that the District was below the average of the Presidency as regards the number of persons protected from small-pox, and that the number of deaths from that disease was more than the average. The number of persons successfully vaccinated during that year was 23 per mille of the population against 30 per mille for the Province as a whole. Vaccination is compulsory in the three municipal towns and in eleven of the Unions.

W. Francis, *District Gazetteer*, 1905.

Tindivanam Sub-division.—Sub-division of the South Arcot District of Madras consisting of the taluks of TINDIVANAM, TIRUVANNAMALAI and VILLUPURAM.

Tindivanam Taluk.—The north-easternmost taluk of the South Arcot District, Madras, lying between 12° 2' and 12° 29' N. and 79° 13' and 80° E., on the shore of the Bay of Bengal with an area of 816 square miles. The population in 1901 rose to 338,973 against 316,018 in 1891. It contains 473 villages and one town, TINDIVANAM, the head-quarters of the taluk and of the revenue sub-division, which has a population of 11,373. The land revenue and cesses demand amounted in 1903-04 to Rs. 7,78,000. The taluk ranks third in point of area in the District and is the only one which has no direct irrigation from channels. Tindivanam is a level plain standing at a rather higher level than the rest of the District and draining south-eastwards. On its western border are the picturesque hills surrounding GINGEE but along the coast much of it is low-lying and swampy.

Tiruvannāmalai Taluk.—Taluk lying between 11° 58' and 12° 35' N. and 78° 38' and 79° 17' E., in the north-western corner of the South Arcot District, Madras. In the west a spur of the JAVADI HILLS of North Arcot which is locally known as the Tenmalais (south hills) runs down into it and in the south it includes the corner of the KALRAYAN HILLS round about Chekkadi which is sometimes called the Chekkadi hills. Both these ranges are feverish. They are inhabited by Malaiyālis, a body of Tamils who at some remote period settled upon them and now differ considerably from their fellows on the plains in their ways and customs. On them are large blocks of reserved forest in which grow sandalwood, teak and a few other timber trees and which are the most important of the reserves in the District. Tiruvannāmalai is the largest taluk in South Arcot,

its area being 1,009 square miles and its population, which numbered 244,085 in 1901 against 205,403 in 1891, increased during that decade by 18·8 per cent., showing a higher rate of growth than any other. It is still, however, the most sparsely-peopled area in the District, the inhabitants numbering only 242 to the square mile against the District average of 450. It contains 400 villages and one town, the tāluk head-quarters, the municipality of TIRUVAN-NAMALAI, population 17,069. The rainfall is the lightest in South Arcot, being 36 inches against the District average of 43 inches, and it is more liable to scarcity than its neighbours. The land revenue and cesses demand amounted in 1903-04 to Rs. 4,32,000.

Villupuram Tāluk.—Tāluk in South Arcot District, Madras, lying on the coast of the Bay of Bengal between 11° 47' and 12° 10' N. and 79° 15' and 79° 52' E., with an area of 509 square miles. The French Settlement of PONDICHERRY is within its boundaries. The tāluk contains 300 villages and one town, VILLUPURAM, its head-quarters, population 11,263, and its land revenue and cesses demand in 1903-04 amounted to Rs. 6,65,000. The population, which consists mainly of Hindus, was 313,607 in 1901 against 301,746 in 1891, the percentage of increase being 3·9, the lowest of any tāluk in the District. Villupuram is an almost level plain, devoid of natural features, covered with the fertile alluvium of the PONNAIYAR basin, and sloping gradually to the sea.

Tirukkoyilūr Sub-division.—Sub-division of the South Arcot District of Madras consisting of the tāluks of TIRUKKOYLUR and KALLAKURCHI.

Tirukkoyilūr Tāluk.—The central inland tāluk of the South Arcot District, Madras, lying between 11° 38' and 12° 5' N. and 79° 4' and 79° 31' E., with an area of 584 square miles. Its population was 285,068 in 1901 against 261,026 in 1891. It contains 350 villages and one town, TIRUKKOYLUR, population, 8,617, the head-quarters of the tāluk and of the revenue sub-division. Its land revenue and cesses demand amounted in 1903-04 to Rs. 5,84,000. Two of the chief rivers of the District, the PONNAIYAR and the Gadilam, cross the tāluk and on the former, three miles below Tirukkoyilūr, a dam has been constructed for purposes of irrigation which feeds some of the most important channels in the District. On the west, the tāluk is diversified by a few stony granite hills and ridges, but the rest of it consists of a featureless plain of alluvial soil which slopes gradually down to the sea.

Kallakurchi.—One of the western tāluks of South Arcot District, Madras, lying between 11° 34' and 12° 4' N. and 78° 38' and 79° 13' E., with an area of 873 square miles. The KALRAYANS, one of the only two hill-ranges in the District, skirt its western border and south of them is the Atūr pass leading into the Salem District. Its population was 269,377 in 1901 against 239,405 in

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1891. There are no towns in it, but it contains 367 villages, of which Kallakurchi, the táluk head-quarters, is situated on the trunk road from Cuddalore to Salem. It is the second largest táluk in the District and the second most sparsely-peopled. The land revenue and cesses demand amounted in 1903-04 to Rs. 4,92,000. In the hills in the west rise several small streams and these are utilised for irrigation by means of rough stone dams. The hill villages, which number 96, are divided into three *pālaiyams* or estates. The *poligārs* or chiefs, derive their revenue chiefly by leasing out the forests and by a poll-tax on the tenants, who are all Malaiyālis by caste. There is no irrigated cultivation on the hills; the principal dry crops grown are *rāgi*, *cambu*, *tinai* (*Setaria Italica*, a poor kind of millet) and *varagu*. Bamboos and timber of various kinds are taken down to the plains and sold for house-building and other purposes.

Cuddalore Táluk.—The head-quarters táluk and sub-division of the South Arcot District, Madras. It is more thickly-populated than any other, its inhabitants numbering 808 to the square mile against the District average of 450. It lies on the coast of the Bay of Bengal between $11^{\circ} 30'$ and $11^{\circ} 52'$ N. and $79^{\circ} 26'$ and $79^{\circ} 47'$ E., and had a population of 361,776 in 1901 against 361,203 in 1891. It contains three towns, namely, the municipality of CUDDALORE, the head-quarters of the táluk and the District, population, 52,216, PANRUTI (15,206), and NELLIKUPPAM (13,137), and 224 villages. It receives a fairly plentiful rainfall but slightly less than Chidambaram. Its area is 448 square miles and its land revenue and cesses demand in 1903-04 amounted to Rs. 5,23,000. Large areas of it are planted with casuarina and fruit trees. Cuddalore consists for the most part of a level alluvial plain of great fertility but few natural features. Diagonally across it, however, runs the plateau of Mount Capper, a high lateritic tableland, and on this the rich alluvium gives place to a barren red soil in which little will grow.

Chidambaram Sub-division.—Sub-division of the South Arcot District of Madras consisting of the táluks of CHIDAMBARAM and VRIDDHACHALAM.

Chidambaram Táluk.—The southernmost táluk of the South Arcot District, Madras. It is situated between $11^{\circ} 11'$ and $11^{\circ} 36'$ N. and $79^{\circ} 19'$ and $79^{\circ} 49'$ E. and covers 402 square miles. The COLEROON bounds it on the south and separates it from the Tanjore District, and the river VELLAR runs across it and thus, unlike the rest of the District, it contains wide irrigated areas watered by large works from these rivers. The channels from the Lower Anicut across the Coleroon supply about 246 villages. In 1901 the population of the táluk was 294,868 as against 282,275 in 1891. It contains 336 villages and two towns, namely CHIDAMBARAM,

population 19,909, a municipality and the head-quarters of the tāluk, and PORTO NOVO (13,712), a seaport town. The land revenue and cesses demand in 1903-04 amounted to Rs. 9,33,000. Population numbers as much as 734 to the square mile against an average of 450 for the District and the annual rainfall, which is about 51 inches on an average, is heavier than in any other tāluk.

Vriddhāchalam Tāluk.—One of the two southern tāluks forming the Chidambaram sub-division of the South Arcot District, Madras. It lies between 11°23' and 11°41' N. and 78°50' and 79°34' E., and has an area of 576 square miles. Its inhabitants numbered 242,140 in 1901 against 219,675 in 1891. They reside in 295 villages and one town, VRIDDHACHALAM, the tāluk head-quarters, a place of some religious and historical importance. It is an essentially dry (unirrigated) tāluk, the wet cultivation being only one-eleventh of the dry area. The total land revenue and cesses demand amounted to Rs. 5,83,000 in 1903-04. The rivers running through it are the VELLAR and its tributary the Manimuktānadi; the waters of the latter at Vriddhāchalam are considered especially sacred. The tāluk contains no hills and is not picturesque. Large areas of it are covered with a black soil on which cotton and acacias flourish, but which is very dreary in appearance in the dry weather.

Chidambaram Town.—Town on the South Indian Railway and the head-quarters of the tāluk of the same name in the South Arcot District, Madras, lying in 11°25' N. and 79°42' E. Its population in 1901 was 19,909, of whom 18,627 were Hindus and 1,199 Musalmāns. A municipality was constituted in 1873, and its average annual receipts and expenditure for the ten years ending 1902-03 were Rs. 24,800 and 25,100 respectively; in 1903-04 they were Rs. 25,800 and 27,600, the former consisting chiefly of the proceeds of the taxes on houses and land. An estimate for a water-supply scheme, amounting to Rs. 2,82,000, has been drawn up for the town and is now under consideration.

During the Carnatic wars, the place was considered a point of considerable strategic importance. In 1749 the ill-fated expedition under Captain Cope against DEVIKOTTAI halted here on its retreat to FORT ST. DAVID. In 1753 the French occupied it. In 1759 an attempt by the English failed but it capitulated to Major Monson in 1760. Later on, Haidar Ali improved the defences and placed a garrison in the great temple. In 1781 Sir Eyre Coote attacked the temple but was driven off.

Chidambaram (or *Chit Ambalam*, the atmosphere of wisdom) is principally famous for its great Siva temple. This covers an area of 39 acres in the heart of the town and is surrounded on all four sides by streets about 60 feet wide. It contains one of the five great lingams, namely, the air lingam, which is known also as the Chidambara Rahasyam or the secret of Chidambaram. No lingam

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actually exists, but a curtain is hung before a wall and when visitors go to see the lingam the curtain is withdrawn and the wall exhibited, the lingam of air being, of course, invisible. The temple is held in the highest reverence throughout southern India and Ceylon, and one of the annual festivals held there in December and January is largely attended by pilgrims from all parts of India. As an architectural edifice, it is a very wonderful structure, for it stands in the middle of an alluvial plain between two rivers where there is no building-stone within 30 or 40 miles; and yet the outer walls are faced with dressed granite, the whole of the great area enclosed by the inner walls is paved with stone, the temple contains a hall which stands on more than 1,000 monolithic pillars, into the gateways are built blocks of stone 30 feet high and more than three feet square, and the reservoir, which is 150 feet long and 100 feet broad and very deep, has long flights of stone steps leading down to the water on all four sides. The labour expended in bringing all this and other material 40 miles through a country without roads and across the VELLAR river must certainly have been enormous.

The temple contains five Sabhas or halls, besides shrines to Vishnu and to Ganesa. Its age and architecture are discussed at some length in Fergusson's work, which also contains several woodcuts of different parts of it. The Nāttukottai sub-division of the Chetti caste have recently been restoring the building at considerable cost. It possesses no landed endowments, and is managed in a most unusual way by the members of a sect of Brāhmans called Dikshitaras, who are peculiar to Chidambaram and depend entirely upon public offerings for their own maintenance and for the upkeep of the temple. The management may be described as a domestic hierarchy, each male married member of the sect possessing an equal share in its control. No accounts are kept. The Dikshitaras take it in turns to perform the daily worship. Except the temple the place contains little of interest. There is a rest-house built by a Nāttukottai Chetti in which poor pilgrims are fed daily and a large number of others which provide accommodation for travellers. A high school in the town is managed by the trustees of the well-known Pachayappa charities.

Cuddalore Town.—The head-quarters of the Cuddalore taluk and of the District of South Arcot, Madras, lying in $11^{\circ}46'$ N. and $79^{\circ}46'$ E. It is made up of several different quarters, chief of which are Cuddalore New Town, consisting of Tirupāpuliūr, noted for its ancient Siva temple, and Manjakuppam, containing the principal public offices and European bungalows picturesquely situated among fine trees on the four sides of a large open plain; Devanāmpatnam in which are the ruins of old FORT ST. DAVID; and Cuddalore Old Town, a sea-port and the chief trading centre of the District. Two rivers, the holy PONNAIYAR and the Gadilam,

pass through it to the sea, and the name of the town is supposed to be a corruption of Kūdal-ūr, meaning junction town, or the place where the two rivers meet. These rivers are liable to heavy floods and in 1884 they united and their waters swept through the town for 24 hours. The current tore across the plain round which the offices stand to a depth of five feet, and a youth narrowly escaped drowning close to the old time-gun there. The place is on the trunk road from Trichinopoly to Madras, 118 miles by road and 125 by rail south of Madras and twelve miles south of PONDICHERRY. Its population in 1871 was 40,290; in 1881, 43,545; in 1891, 47,355 and in 1901, 52,216. The place has thus increased steadily in size and it is now the eleventh largest town in the Province. Of the population in 1901, 47,833 were Hindus and the remainder was about equally divided between Christians and Musalmāns. Cuddalore was constituted a municipality in 1866. The municipal area extends over 13 square miles and includes 18 villages and hamlets. The average annual municipal receipts and expenditure in the ten years ending 1902-03 were Rs. 50,500 and Rs. 49,300 respectively. In 1903-04 the income was Rs. 59,000, chiefly derived from the house and land tax (Rs. 16,600) and tolls (Rs. 13,600); and the expenditure of Rs. 57,500 included conservancy (Rs. 16,800), roads and buildings (Rs. 11,200) and the municipal hospital (which contains beds for 48 in-patients) and dispensaries, Rs. 10,400. Being the administrative head-quarters of the District, the place contains all the chief public offices and courts, a Protestant and a Roman Catholic church, the District jail, etc., besides the sea-customs and marine establishments. The Collector's residence is the old Garden House of the Governors of Fort St. David and was the scene of some fierce fighting in the wars with the French. The port of Cuddalore is the largest in the District. Coasting steamers call there periodically and foreign vessels also touch to load with ground-nut, the chief export of the District. The total imports and exports in 1903-04 were valued at 20 lakhs and 137 lakhs respectively. The old-established firm of Messrs. Parry & Co. has an important branch office here, which is located in the building originally constructed for the East India Company's factory and afterwards used as the District jail, and other firms are now being attracted by the ground-nut trade.

The town has a reputation for healthiness, and elephantiasis, which was at one time painfully frequent, is now disappearing from the Old Town owing to the supply of filtered water from a reservoir near by. This supply is, however, only brought down to one part of the town and is limited in quantity. A more ambitious scheme has been prepared, but its cost (3·7 lakhs) is more than the municipality is able to afford at present. A special dispensary for women and children stands near the railway station in New Town which

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was built by Rājā Sir S. Rāmaswāmi Mudaliyār and is maintained from local and municipal funds. *Kailās* and fabrics of silk mixed with cotton are the chief manufacture. On the outskirts of the town, on Mount Capper (the Bandapolam Hill of Orme the historian), is the new District jail, which was constructed by convict labour and has accommodation for 406 prisoners. Considerable quantities of cotton goods, including carpets and towels, are manufactured in it by the convicts.

Cuddalore is the educational centre of the District, the chief institutions being St. Joseph's College, a French Roman Catholic establishment of the second grade possessing a boarding house for native Roman Catholic Christians, and the Cuddalore College, which is managed by a local committee and teaches up to the Matriculation standard.

The history of Cuddalore is more or less the history of the District and dates from as far back as 1682, when the Company opened negotiations with the Khān of GINGEE for permission to settle there. In 1684 a formal lease was obtained for the present port and the former fortress, of which no remains now exist. During the next ten years trade increased so rapidly that the Company erected Fort St. David for the protection of the place and rebuilt their warehouses. On the fall of Madras in 1746, the head-quarters of the Presidency was transferred to Fort St. David, where they remained till 1752.

David, Fort St.—A ruined fortress situated in $11^{\circ} 45' N.$ and $79^{\circ} 48' E.$, on the bank of the Gadilam river near the point where it falls into the Bay of Bengal, about $1\frac{1}{2}$ miles east of CUDDALORE New Town, in the Cuddalore tāluk of the South Arcot District, Madras. The place is now included within the limits of the municipality of Cuddalore and several European bungalows have been erected within its crumbling lines. It has as stirring a history as almost any spot in the Presidency. The Dutch and the French both had settlements on this site at one time. There was a small fort, which had been built by a Hindu merchant named Chinnia Chetti and after the capture of GINGEE by Sivaji in 1677 this passed into the possession of the Marāthās. From them it was purchased by the English in 1690, the sale including all the land round the fort to the distance of a 'randome shott of a great gun'. The great gun was carefully loaded and fired to the different points of the compass, and wherever its shot fell a boundary mark was set up. The villages so obtained are called the cannon-ball villages to this day. The place was known in those days as Tegnapatam or Devipatam and it has been conjectured with much probability that it was named Fort St. David by E. Yale, then Governor of Fort St. George, who was a Welshman, in honour of his country's patron saint. From 1752 it was the fortifications

TANJORE DISTRICT.

Tanjore District (*Tanjāvūr*).—A coast District lying towards the south of the Madras Presidency between 9° 49' and 11° 25' N. and 78° 47' and 79° 52' E., and having an area of 3,710 square miles. On the north the river COLEROON separates it from Trichinopoly and South Arcot Districts; on the west it is bounded by the Pudukkottai State and the Trichinopoly District; and on the south by the District of Madura. Its seaboard is made up of two sections, one extending 72 miles from the mouth of the Coleroon to POINT CALIMERE in the south, and the other bordering the Palk Strait for 68 miles from Point Calimere to Madura District in the south-west. The small French Settlement of KARIKAL is situated about the middle of the former of these.

TANJORE
DISTRICT
—
Boundaries
and configura-
tion.

The northern and eastern portions of Tanjore form the delta of the river CAUVERY, which, with its numerous branches, intersects and irrigates more than half the District. This tract comprises the whole of the taluks of Kumbakonam, Māyavaram, Shiyāli and Nannilam and parts of Tanjore, Mannārgudi, Tirutturaipūndi and Negapatam and is the best irrigated, and consequently the most densely-populated and perhaps the richest, area in the Presidency. The southern portion of the District stands about 50 feet higher, and is a dry tract of country comprising the whole of Pattukkottai taluk, the southern portion of Tanjore and the west of Mannārgudi.

The delta is a level, alluvial plain covered, almost without a break, by rice-fields and sloping gently towards the sea. The villages, which are usually half-hidden by cocoa-nut palms, stand on cramped sites but little above the level of the surrounding cultivation, like low islands in a sea of waving crops. It is devoid of forests and has no natural eminences save the ridges and dunes of blown sand which fringe the sea coast. These ridges are neither wide nor high, for the south-west monsoon is strong enough to counteract the work done by the north-east winds, which would otherwise gradually spread the hillocks far inland, and the heavy rainfall on the coast during the latter monsoon saturates the sand and prevents it from being carried as far as would otherwise be the case. Some protection is also afforded by a belt of screw-pine jungle which runs between the sand ridges and the arable land along a great part of the coast line. The southern seaboard of

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Tirutturaippūndi taluk, west of Point Calimere, is an extensive salt swamp several miles wide and usually covered with water.

The non-deltaic portion of the District is likewise an open plain which slopes to the east and is also destitute of hills. A small part of it lying to the south and south-west of TANJORE rises, however, somewhat above the surrounding level and forms the little plateau of VALLAM. This is the pleasantest part of the District and here, seven miles from Tanjore town, the Collector's official residence is situated.

Except the Coleroon and the branches of the Cauvery, the District contains no rivers worthy of particular mention; but a few insignificant streams cross the Pattukkottai taluk. The irrigation under the two former rivers is noticed in the section on Irrigation below.

Geology.

Unfossiliferous conglomerates and sandstones occupy a large part of the District to the south and south-west of Tanjore, where they lie, when their base is visible, on an irregular surface of gneiss. Above them are disposed, in a series of flat terraces, lateritic conglomerates, gravels and sands which gradually sink below the alluvium. All the northern and eastern tracts are composed of river, deltaic and shore alluvium and blown sands.

Flora.

The crops of the District are briefly described below. Its trees present few remarkable features. Bamboos and cocoa-nut palms are plentiful in the delta, palmyras and the Alexandrian laurel on the coast, tamarind, jack, and nīm in the uplands of the south, while the *iluppai* (*Bassia longifolia*) and the banyan and other *fici* are common everywhere. There is however a general deficiency of timber and firewood, which in consequence are largely imported.

Fauna.

The larger fauna of Tanjore present little of interest. Except in the scrub jungle near Point Calimere and in very small areas near Vallam, Shiyāli and Madukkūr, where antelope, spotted deer and wild pig are met with, there are no wild animals bigger than a jackal. Jackals and foxes are very common, and the ordinary game birds are found in fair quantities. The rice fields, however, afford good snipe-shooting.

Climate and
temperature.

The climate of the District is healthy on the whole, though it is hot and relaxing in the delta. As the latter widens, the increased breadth of the irrigated land causes more rapid evaporation of the water with which it is covered, and hence the country is cooler towards the sea. The delta is naturally well drained, and does not therefore suffer in point of climate as much as might be expected from the wide extension of irrigation within it. The mean temperature at NEGAPATAM on the coast of the deltaic tract is 83°.

The neighbourhood of Vallam is the healthiest and the coolest part of the District, and resembles Pattukkottai taluk in dryness. The latter presents a contrast to the delta, inasmuch as the heat is less in the inland and greater in the seaboard tracts. The great exception to the general healthiness of the District is the swamp stretching west from Point Calimere. That promontory was at one time considered a sanitarium, but it is now sometimes said to be feverish from April to June.

The annual rainfall in the District as a whole reaches the comparatively high average of over 44 inches. It is lowest in Arantangi (35 inches) and highest in Negapatam (54 inches). Tanjore itself receives only 36 inches on an average. Most of the rain falls during the north-east monsoon, which strikes directly on the more northerly of the coast taluks, and throughout these the rainfall is consequently higher than inland; but the south-west rains also reach as far as this District and are occasionally heavier than those received from the north-east current.

Rainfall.

The District has rarely suffered much from scarcity of rain, but serious losses from floods and hurricanes have been not infrequent. Of these disasters the most serious was the flood in the Cauvery in 1853, which covered the delta with water and, though few lives were lost, did immense damage to property. A flood in 1859 fortunately did little harm, but in 1871 a hurricane caused much loss of life and property on land and sea. There have been several inundations in more recent times, but the regulators constructed across the branches of the Cauvery have now done much to minimise the effect of these calamities.

Up to the middle of the 10th century A.D. the District formed part of the ancient CHOLA kingdom. During the reign of Rājārāja I (985 to 1015), perhaps the greatest of that dynasty, the Cholas reached the zenith of their power, their dominion at his death including almost the whole of the present Madras Presidency, the provinces of Mysore and Coorg, and the northern portion of Ceylon. Rājārāja had a well-equipped and efficient army, divided into regiments of cavalry, foot-soldiers and archers. He carried out a careful survey of the land under cultivation and assessed it, and beautified Tanjore with various public buildings, including its famous temple. During his time, if not earlier, the civil administration also became thoroughly systematised. Each village, or group of villages, had an assembly of its own called the *mahāsabha* (great assembly) exercising, under the supervision of local officers, an almost sovereign authority in all rural affairs. These village groups were formed into districts under district officers, and the districts into provinces under

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viceroy. Six such provinces made up the Chola dominions. The kingdom which Rājārāja thus established and unified remained intact until long after his death. His immediate successors were, like himself, great warriors and good administrators. Tanjore owes to them the dam (called the Grand Anicut) separating the Cauvery from the Coleroon, the great bulwark of the fertility of the District, which is briefly described below under Irrigation, and also the main channels depending upon it.

During the 13th century Tanjore passed, with most of the Chola possessions, under the rule of the Hoysala Ballālas of Dorasamudra and the Pāndyas of Madura. The District probably shared in the general subjection of the south to the Muhammadan successors of Malik Kāfur's invasion till the close of the 14th century, when it became part of the Hindu kingdom of Vijayanagar, which was then rising into power. During the 16th century one of the generals of this kingdom declared himself independent and in the early part of the 17th century a successor established a Naik dynasty at Tanjore. The kings of this dynasty built most of the forts and Vaishnava temples in the District. The tragic end of the last of their line forms the subject of a popular legend to this day. He was besieged by Chokkanātha, the Madura Naik, in 1662. Finding further defence hopeless he blew up his palace and his zanāna, and with his son dashed out against the besiegers and fell in the thickest of the fight. An infant son of his, however, was saved and the child's adherents sought aid from the Muhammadan king of Bijāpur. The latter deputed his general Venkāji, half-brother of the celebrated Sivaji, to drive out the usurper and restore the infant Naik. This Venkāji effected, but shortly after he usurped the throne himself and founded (about 1674) a Marāthā dynasty which continued in power until the close of the 18th century. For the next seventy years his successors maintained a generally submissive attitude towards the Muhammadans, to whom they paid tribute occasionally, and engaged in conflict only with the rulers of Madura and Rāmnād.

The English first came in contact with this line in 1749, when they espoused the cause of a rival to the throne and attacked DEVIKOTTAI, which the Rājā eventually ceded to them. Tanjore joined the English and Muhammad Ali against the French; but succeeded on the whole in taking little part in the great Carnatic wars. The capital was besieged in 1749 and 1758 and parts of the country were occasionally ravaged. In 1773, the Rājā fell into arrears with his tribute to the

Muhammadan Nawāb of Arcot, who was in alliance with the English, and was also believed to be intriguing with Haidar Ali of Mysore and with the Marāthās for military aid. Tanjore was accordingly attacked by the English, as the Nawāb's allies, in 1773 and was taken. The Rājā was, however, restored in 1776 and concluded a treaty with the Company by which he became their ally and Tanjore a protected Native State. In October 1799, shortly after his accession, Rājā Sarabhoji resigned the administration into the hands of the British, and received a suitable provision for his maintenance. Political relations with him continued unchanged during his lifetime, but he exercised sovereign authority only in his own fort and its immediate vicinity and subject to the control of the British Government. He died in 1832 and was succeeded by his only son Sivaji, on whose death without heirs in 1855 the titular dignity became extinct and the fort and city of Tanjore became British territory.

The present District of Tanjore is made up of the country thus obtained and of three small settlements which have separate histories. These latter are firstly, Devikottai and the adjoining territory, which had been previously acquired by the Company from the Tanjore Rājā in 1749; secondly, the Dutch settlements of Negapatam and Nagore and the Nagore dependency, of which the first two were taken by the Dutch from the Portuguese in 1660 and annexed to the British dominions in 1781 and the third was ceded by the Rājā to the English in 1778; and, lastly, TRANQUEBAR, which the Danes had acquired from the Naik Rājā of Tanjore in 1620 and which they continued to hold on the payment of an annual tribute until 1845, when it was purchased by the East India Company.

The chief objects of archæological interest in the District are its religious buildings. Numerous temples of various dates are scattered all over it. Those at TIRUVALUR, Alangudi and Tiruppūdurutti are mentioned in the *Devāram*, and must therefore have been in existence as early as the seventh century A.D. Inscriptions in old Tamil and Grantha characters occur in many of them. These refer mostly to the Chola period, and none of them has been found to be earlier than the tenth century. There are a few grants by Pāndya kings. The MANNARGUDI and TIRUVADAMARUDUR temples contain inscriptions of the Hoysala kings and some Vijayanagar grants, and many records of the later Naiks and Marāthās have been found. Of all the temples in the District perhaps the most remarkable is

Archæology.

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the great shrine at Tanjore which was built by Rājārāja I and is interesting alike to the epigraphist and to the student of architecture, being a striking monument of eleventh century workmanship and abounding in inscriptions of the time of its founder and his successors. It is noticed more fully in the article on Tanjore. At KUMBAKONAM is an ancient temple dedicated to Brahṃā, a deity to whom shrines are seldom erected. The Tiruvālūr temple is another remarkable building.

The people.

The population of Tanjore averages 605 persons to the square mile and the District is the most thickly populated in the Presidency. The tāluks of Kumbakonam, Negapatam and Māyavaram, which consist of the rich and closely cultivated wet lands of the delta, rank respectively fourth, fifth and sixth in the Province in the density of their inhabitants to the square mile. The population of the District, which has increased at a very slow rate, was 1,973,731 in 1871; 2,130,383 in 1881; 2,228,114 in 1891; and, in 1901, 2,245,029. In the decades ending 1891 and 1901 it increased less rapidly than that of any other District, owing chiefly to the very active emigration which took place to the Straits, Burma and Ceylon. In Pattukkottai, the most sparsely-peopled tāluk, the advance in the period 1891-1901 was as much as nine per cent., but this is thought to have been due less to any extension of cultivation than to the temporary immigration of labourers for the construction of the railway extension from MUTTUPET to Arantāngi. Out of a total population of 2,245,029, the Hindus number 2,034,399, or 91 per cent., Musalmāns 123,053, or five per cent., and Christians 86,979, or four per cent. These last have increased twice as rapidly as the population as a whole. The District contains eleven females to every ten males, a higher proportion than is found anywhere else except in Ganjām, which is largely due to emigrants leaving their women behind them. The prevailing vernacular in every tāluk is Tamil.

The number of towns and villages in the District is 2,529. Its principal towns are the municipalities of KUMBAKONAM, TANJORE (the administrative head-quarters), NEGAPATAM, MAYAVARAM and MANNARGUDI. Kumbakonam and Tanjore are growing far more rapidly than the urban areas round them, the rate of increase of their population in the decade ending 1901 being respectively 10 and 6 per cent., but in the same period the population of Negapatam declined. The District is divided into the nine tāluks of Tanjore, Kumbakonam, Māyavaram, Shiyāli, Nannilam, Negapatam, Mannārgudi, Tirut-

turaippūndi and Pattukkottai, each of which is called after its head-quarter town. Statistics of these, according to the census of 1901, are subjoined :—

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Taluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Mayavaram ...	283	2	186	247,019	873	+ 0·9	26,208
Shiyali ...	171	1	96	116,563	682	- 2·7	10,236
Kumbakonam ...	342	2	307	375,031	1,097	- 0·7	43,256
Negapatam ...	240	2	189	217,607	907	- 1·2	29,773
Nannilam ...	293	2	242	214,788	733	- 0·6	22,212
Tanjore ...	689	4	362	407,039	591	- 0·8	44,158
Mannārgudi ...	301	1	193	188,107	625	- 0·0	18,023
Tirutturaipṇḍi.	485	3	143	182,981	377	+ 1·9	14,456
Pattukkottai ...	906	2	792	295,894	327	+ 8·9	18,608
District Total ...	3,710	19	2,510	2,245,029	605	+ 0·8	226,928

Of the Hindu population the most numerous castes are the field-labourer Paraiyans (310,000) and Pallans (160,000) and the agriculturist Vellālas (212,000), Pallis (235,000) and Kallans (188,000). Castes which occur in greater strength in this than in other Districts are the Tamil Brāhmins, whose particular stronghold is Kumbakonam; the Karaiyāns, a fishing community; the Nokkans, who were originally rope-dancers but are now usually cultivators, traders or bricklayers; and the Melakkārans, or professional musicians. A large number of Marāthā Brāhmins, who followed their invading countrymen thither, are found in Tanjore town. Their castes.

Less than the usual proportion of the people of the District subsist by agriculture, but as usual it largely predominates among their occupations. Tanjore is not, however, an industrial centre, and the percentage of those who live by cultivation is reduced merely by the large number of traders, rice-pounders, goldsmiths and other artisans who are found within it. It also includes an unusually high proportion of those who live by the learned and artistic professions or possess independent means. Their occupations.

The Christian missions of Tanjore, both Protestant and Roman Catholic, are of unusual interest. The latter date from as far back as the days of St. Francis Xavier, who is said to have preached at Negapatam in the sixteenth century; but it is doubtful whether the District was ever within the sphere of his personal activities. In the seventeenth century, however, the Portuguese certainly Christian missions.

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DISTRICT.

conducted missionary enterprise from Negapatam. But, as happened elsewhere, after the decline of the Portuguese power in India the various missionary societies were involved in disputes and their influence declined. The rivalry between the Goanese and the other missions has in recent years been put an end to by a Concordat, under which a few towns have been left to the Goanese under the Bishop of Mylapore while the river Vettār has been made the boundary between the Jesuit mission under the Bishop of Madura and the French mission under the Bishop of Pondicherry. The Roman Catholic missions have been far more successful in proselytising than those belonging to the Protestant sects, their converts numbering 86 per cent. of the whole Christian community.

The first Protestant missionaries to visit the District were Plütschau and Ziegenbalg, who were Lutherans and were sent out by the king of Denmark to Tranquebar in 1706. They were the first translators of the Bible into Tamil, and the mission founded by them was of no little importance throughout the eighteenth century. The most famous of its missionaries was Swartz. He was at one time chaplain to the English troops at Trichinopoly, but subsequently he connected himself with the Society for Promoting Christian Knowledge and eventually returned to Tanjore as an English chaplain and founded the English mission there. Later, the Society for the Propagation of the Gospel succeeded the Society for Promoting Christian Knowledge as a missionary organization in Tanjore. Eventually the Tranquebar Danish mission, which had long been declining, was in 1841 succeeded by the Dresden Society which, under the name of the Leipzig Evangelical Lutheran Mission, has extended its operations to most of the stations formerly worked by its predecessor. A Methodist mission was established at Mannārgudi in the third decade of the last century and is still in existence.

More than half of the District consists of the delta of the Cauvery. This is almost entirely composed of alluvial soil, which in the west is a rich loam and gradually becomes more arenaceous till it terminates in the blown sands of the coast; a small tract of land between the Vettār and the Vennār is a mixture of alluvial soil and limestone. Rice is grown on these lands both in June and August so as to take advantage of both the rainy seasons. The fertility of the delta depends almost entirely on the silt which is brought down by the Cauvery, but so rich is this deposit that the use of manure is extremely rare except occasionally in the case of double crop lands. It would however perhaps be more freely used if it were less expensive. The richest lands tend to lie towards

the apex of the delta, where the rice fields of Tiruvādi are called, by a Virgilian metaphor, 'the breast of Tanjore', and the fertility of the country decreases as the coast is reached, the deposits of silt from the water at the tail ends of the irrigation channels being neutralized by the influx of drainage water. The produce is poorest towards the south-west, a fact due both to the incompleteness of the irrigation system and to the greater distance the water has to travel and the consequent reduction in the amount of silt it carries.

Except along the sandy coast of Pattukkottai, the non-deltaic part of the District is made up of red ferruginous soil, the irrigation of which depends on rain-fed tanks and precarious streams. In the delta the vast majority of the land is under wet cultivation, and dry crops are only frequent outside it. The most fertile pieces of unirrigated land are the *padugais*, or strips of cultivation lying between the margins of the rivers and the flood embankments, which are annually submerged for some days by the silt-laden water. Tobacco, plantains and bamboos are generally grown on these exceptionally rich fields.

Land in Tanjore is mainly held on ryotwāri tenure, the zamīndāri and inām areas covering only 1,239 square miles out of the 3,710 of which the District consists. Statistics for 1903-04, areas being in square miles, are given below :—

Tāluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irrigated.
Māvavaram ...	284	...	2	241	193
Shiyālī ...	171	4	3	134	94
Kumbakonam.	343	...	5	279	231
Negapatam ...	240	...	9	194	143
Nannilam ...	294	...	2	250	210
Tanjore ...	578	5	36	391	162
Mannārgudi...	300	...	9	245	165
Tirutturai-p- pūndi ...	484	10	28	282	124
Pattukkottai.	741	...	110	403	166
District Total.	3,435	19	204	2,419	1,488

Rice is the staple grain of the delta, being raised on 1,683 square miles, or 77 per cent. of the cropped area there; it is indeed the most widely grown cereal in every tāluk, though its preponderance is less in Tanjore and Pattukkottai. The rice of the District chiefly consists of varieties of the two main kinds usually known as *kār* and *pisānam*. *Kār* rice is sown in June and

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reaped in September while *pisānam* ripens more slowly and is cut in February after seven months' growth. The latter commands a higher price, but the *kār* rice requires more water, can be grown at a more favourable season of the year, and thus yields a much more abundant crop. Except between Tiruvādi and Kumbakonam it is not usual to cultivate two crops on the same plot of land in the same year; indeed seven-eighths of the delta consist of single-crop land. Over wide areas, however, the ryots adopt what is called *ūdu* cultivation, which consists in sowing two varieties of seed, one a quick-growing species which matures in four months and the other a kind which requires six months to ripen, mixed together.

The chief dry cereals are *varagu*, *cambu* and *rāgi*; the principal pulse, red gram; and the most important industrial crops, gingelly and ground-nut. In the non-deltaic area *varagu* is the grain most extensively cultivated, the area under it being 97 square miles. Some *cholam* is grown in Pattukkottai, Tanjore, Mannārgudi and Kumbakonam. Cocconut palms and plantains are numerous, and in the last named tāluk a moderate extent is cultivated with the Indian mulberry as a dry crop.

Improve-
ments in
agricultural
practice.

Except in the Tanjore and Tirutturaippūndi tāluks, where considerable areas are unfit for cultivation, almost every yard of the delta has long been under the plough. Little extension of the area tilled is therefore possible. Nor have the agricultural methods in vogue shown any noteworthy advance, two matters which hinder improvement being the facts that much of the District is owned by absentee landlords who sublet their properties, and that in a great deal of the rest of it the holdings have been minutely sub-divided. Wells are not required, and there is little waste land to be reclaimed, and consequently the advances under the Loans Acts have never been considerable.

Cattle,
ponies
and sheep.

The delta is so closely cultivated that it contains little grazing ground and consequently few cattle or sheep are bred. Such animals as are locally reared are usually small, and plough bullocks are largely imported from elsewhere, chiefly from Mysore and Salem. An inferior class of ponies is bred in small numbers at Point Calimere.

Irrigation.

Of the total area cultivated in the District, 1,488 square miles, or 74 per cent., was irrigated in 1903-04. Of this extent by far the greater portion (1,261 square miles) was watered from Government canals; the area supplied by tanks was only 194 square miles and by wells, 30 square miles. The tanks and wells number respectively 734 and 7,628 and are of comparatively small

importance. They are found almost entirely in the upland tracts of the Tanjore and Pattukkottai taluks.

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As has been mentioned, the Cauvery and its branches are the principal source of irrigation, nearly 98 per cent. of the area watered from canals being supplied from them. The works which have been constructed to render the water of this river available for irrigation are referred to in the separate account of it. Briefly stated the position is this: the river throws off a branch, called the Coleroon, which forms the northern boundary of the District. This branch runs in a shorter course and at a lower level than the main stream and consequently tends to draw off the greater part of the supply in the river. Two anicuts (or dams) have therefore been constructed to redress this tendency. One, called the Upper Anicut, crosses the Coleroon at the point where it branches off, and thus drives much of its water into the Cauvery; and the other, known as the Grand Anicut, is built across a point at which the two rivers turn to meet one another and through which much of the supply in the Cauvery used to spill into the Coleroon. Together these two dams prevent the Coleroon from robbing its parent stream of the water which is so vitally important to the cultivation of Tanjore. The supply thus secured is distributed throughout the delta by a most elaborate series of main and lesser canals and channels. Many of these, including the Grand Anicut itself, are the work of former native governments, but the Upper Anicut and the many regulators and head-sluices which now so effectually control the distribution of the water are the work of English engineers. The Coleroon now serves mainly as a drainage channel to carry off the surplus waters of the Cauvery, but the Lower Anicut built across the latter part of its course irrigates a considerable area in South Arcot and also about 37 square miles in Tanjore.

There are no forests of any importance in the District. In the taluks of Tanjore, Tirutturaippundi and Shiyali, a few blocks of low jungle measuring altogether nineteen square miles are reserved, but the growth in these is dense only at Vettangudi and Kodiyakadu, and the timber is not of any great value. The blocks are of some use as grazing land and for the supply of small fuel.

Forests.

Tanjore contains few minerals of importance. Quartz crystals are found at Vallam and laterite and limestone (*kankar*) are abundant in the south-west of the District. In Tanjore taluk yellow ochre is found and near Nagore there is gypsum of poor quality. Along the Pudukkottai frontier iron is met with, but it is doubtful whether it could be remuneratively worked.

Minerals.

TANJORE
DISTRICT.Arts and
Manufac-
tures.

The chief industries are weaving of various kinds and metal-work. Formerly Tanjore enjoyed a great reputation for its silks, but the District has suffered considerably in the decay of the textile industries which has followed the introduction of mineral dyes and the increasing importation of cheap piece-goods from Europe. The dyers have suffered most and this once prosperous craft is now virtually extinct, the weavers doing their own dyeing or buying ready-dyed thread. The cotton and carpet weaving was once of some note but it has declined equally with, if not more than, the silk industry. Kornād and Ayyampettai, once famous centres of silk and carpet weaving, have greatly diminished in activity and importance. On the other hand the weaving of the best embroidered silks, such as the gold and silver striped embroideries and the gold fringed fabrics of Tanjore and Kumbakonam, shows no signs of becoming involved in the general decay.

In metal-work Tanjore is said to know no rival in the south but Madura. The Madura artisan, however, devotes himself mainly to brass, whereas in Tanjore brass, copper and silver are equally utilized. The subjects represented are usually the deities of the Hindu pantheon or conventional floral work. The characteristic work of the District is a variety in which figures and designs executed in silver or copper are affixed to a foundation of brass. The demand for these wares is almost entirely European. The chief seats of the metal industry are Tanjore, Kumbakonam and Mannārgudi.

Among minor industries the bell-metal of Pisānattūr and the manufacture of musical instruments and pith models and toys deserve mention. The pith models of the temple at Tanjore are well-known. The printing presses at Tanjore and Tranquebar employ a large number of hands and in this respect the District is second only to Madras and is rivalled only by Malabar.

As distinguished from arts, manufactures are few. The South Indian Railway workshops which for nearly 40 years have been located at Negapatam employ a large number of hands and have contributed much to the prosperity of that now declining town.

Commerce.

Tanjore has the advantage from a commercial point of view of being situated on the coast and of being intersected by numerous railways. It possesses altogether fifteen ports, of which Negapatam is by far the most important. Tranquebar, Nagore, Muttupet, Adirāmpatnam, and Ammapatam are however places of some pretensions. The chief centres of land trade, besides Negapatam, are Tanjore, Kumbakonam, Māyavaram and Mannār-

gudi. Most of the trade, both by land and sea, is in the hands of the Chettis and the Musalmān community of the Marakkāyans, the latter being very prominent in the coast towns.

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DISTRICT.

The railways naturally take a large share in the carriage of articles of internal and general inland trade, and the local distribution of commodities is effected by weekly markets managed either by private agency or by the local boards. The chief articles of inland export are rice, betel leaves, ground-nut, oil, metal vessels and cloths. The ground-nut is all sent to Pondicherry for export to Europe by sea, but the other commodities are sent by rail to all parts of southern India. The inland imports are mainly salt from Tuticorin, gingelly and cotton seeds from Mysore and Tinnevely, kerosene-oil from Madras, tamarind and timber from the west coast, and ghī, chillies, pulses and lamp-oil from the neighbouring Districts.

The total exports by sea during 1903-04 were valued at 117 lakhs. Out of this Ceylon took rice to the total value of 60 lakhs, paddy to the extent of $1\frac{1}{2}$ lakhs and half a lakh's worth of cocoa-nuts. Most of this trade was conducted from the port of Negapatam. Besides rice, the principal exports from that town were cotton piece-goods, live-stock, ghī, cigars, tobacco and skins. Large quantities of all these articles, it need hardly be said, are the produce of other Districts and are only brought through Tanjore for shipment. The imports amounted in the same year to 54 lakhs. At Negapatam the most important of the articles admitted were areca-nut, timber and cotton piece-goods, while Adirāmpatnam and Muttupet received a fair quantity of gunny bags and areca-nut.

The trade of Negapatam is mostly with Ceylon, the Straits Settlements and Burma, but it deals to a small extent with the United Kingdom and Spain. The other ports either subsist on traffic with Ceylon or confine themselves to coasting trade. The District is not at present as important a centre of maritime commerce as formerly, for the development of the port of Tuticorin has deprived it of much of its commerce and the opening of the railway to the north-eastern Districts of the Presidency has resulted in the carriage by land of many classes of goods which were formerly imported by sea at Negapatam.

Tanjore is unusually well supplied with railways, all of them being on the metre gauge. The South Indian Railway, which is the direct route between Madras and Tuticorin, traverses the District from north to west, passing through the towns of Mayavaram, Kumbakonam and Tanjore. An older line connects Tanjore with

Railways and
Roads.

TANJORE
DISTRICT.

Negapatam, and this has recently been extended to the neighbouring port of Nagore. A railway branches off from Māyavaram and runs southward as far as Arantāngi, a total distance of 99 miles. This was constructed jointly by the District board and Government as far as Muttupet and was owned by them in common till 1900, when the board acquired the exclusive ownership by purchase and commenced the present extension to Arantāngi. The funds for its original construction and for the extension now in progress were raised by the levy of a cess of three pies in the rupee of the assessment on land in occupation in the District, in addition to the cess of nine pies in the rupee collected for local purposes, under the Local Boards Act. The undertaking was the first of its kind in India and has proved such a complete financial success, the interest earned in 1902-03 being 4½ per cent. on the capital outlay, that other local boards are following the example thus set them and levying a cess for similar purposes and the Tanjore board itself is contemplating the extension of its system. The French port of Kārikāl has been linked with Peralam on the District board railway, and a short branch from Tanjore to the Pillaiyārpatti laterite quarry, five miles in length, is used for bringing road-metal to the main line.

The total length of metalled roads is 206 miles and of unmetalled 1,531; 1,407 miles of these are lined with avenues. With the exception of 182 miles of the unmetalled tracks the whole of them are maintained from local funds. The proportion of metalled to unmetalled roads is very low in this District owing to the extreme scarcity among the alluvial deposits, of which so much of it consists, of any kind of stone suitable for road-making. The roads are often interrupted by the many rivers and channels which intersect the delta, and numerous bridges have accordingly been erected. That across the Grand Anicut, built in 1839 and consisting of 30 arches of a span of 32 feet each, is the most considerable of these.

Famine.

More than half of the District is protected from famine by the irrigation system already referred to. The devastations of Haidar Ali in 1781 caused perhaps the only real scarcity of food which it has ever known. In the great famine of 1877, while in other Districts people were dying by thousands of want which no human power could alleviate, not only was the relief required in Tanjore insignificant in amount, but the high prices of grain which prevailed actually brought exceptional prosperity to the owners of the unfailing lands of the delta. The crops, it is true, were lost in Pattukkottai tāluk and the uplands, but the inhabitants of these tracts found work in the fields of the neighbouring delta. This

south-east corner of the District is always but poorly protected from hard times, but the proximity of the irrigated land in the delta prevents the people from ever suffering seriously.

TANJORE
DISTRICT.

The District is arranged into six administrative sub-divisions. Of the officers in charge of them, two or three are members of the Indian Civil Service, the others being Deputy Collectors recruited in India. The three sub-divisions of Tanjore, Kumbakonam and Pattukkottai consist only of the one taluk after which each is named; the Negapatam sub-division includes the taluk of that name and also Nannilam; the Mannārgudi sub-division is made up of Mannārgudi and Tirutturaippūndi taluks; and the Māyavaram sub-division of that taluk and Shiyāli. At the headquarters of each taluk there is a tahsildār and a stationary sub-magistrate, and deputy tahsildārs with magisterial powers are posted in every taluk except Shiyāli. The superior staff of the District varies slightly from the normal. Owing to the amount of work caused by the elaborate irrigation system, two Executive Engineers are necessary, one at Tanjore and the other at Negapatam. A Civil Surgeon resides at Negapatam (where there is a considerable European population) in addition to the District Medical and Sanitary Officer, but the forests of Tanjore are of such small extent that for forest purposes the District is attached to Trichinopoly.

District
sub-divisions
and staff.

Civil Justice is administered by a District Judge, three Sub-Judges and eleven District Munsiffs. The people of Tanjore, like those of other wealthy areas in the Presidency, are extremely litigious and the work of the Courts is heavy. In addition to suits of the usual classes, cases under the tenancy Act VIII of 1865 are also very frequent, especially in Kumbakonam. They are mostly due to the system of absentee landlordism and sub-tenancies which has grown up round the ryotwāri tenure in this wealthy District. Serious crime is less common in Tanjore than in any other District in the Presidency, and ordinary thefts constitute more than 55 per cent. of it.

Civil Justice
and Crime.

From the earliest times, as far as can be ascertained, the mirāsī system, which is in some essentials similar to the ryotwāri tenure, obtained in Tanjore District as a whole. It is probably as old as the Chola dynasty, but it can only be proved to date back to Marāthā times. The system appears to have been based on a theory of joint communal ownership by the villagers proper (the mirāsīdārs) of all the village land, and in former times often involved the joint management of the common lands or their distribution at stated intervals to the villagers for cultivation. But in spite of this communistic colouring the system always

Land
Revenue
administra-
tion.

TANJORE
DISTRICT.

involved a scale of individual rights to specific shares in the net fruits (however secured) of the general property, and herein lay all the essential elements of private ownership of the land. It was only a matter of detail to be settled in the village whether a villager's share was described in terms of crops or lands, and it seems to have come about gradually that lands were everywhere assigned permanently as the share and private property of the *mirāsīdār*. Such a system was equally well adapted for the taxation of the villagers in a body or of each individual ryot.

Under the early Marāthā kings the productive capacity of all the wet lands in each village was assessed in the gross at a certain quantity of grain or grain standard which was divided between the state and the cultivator at certain rates of division (*vāram*), the state's share being converted into money at a commutation price fixed each year. The dry lands were assessed at fixed rates or had to pay the value of a fixed share of the actual harvest each year according to the nature of the crop grown. The revenue history of the District has largely consisted of variations in the grain standard of the wet lands and the modifications of the rates of division and commutation price. The ryots had gradually succeeded in reducing their payments considerably before the short period of Muhammadan rule (1773-76); but the iron hand of Muhammad Ali succeeded in exacting a larger land revenue than has, as far as we know, ever been obtained before or since. He altered the system by demanding a specified share, not of the estimated produce or grain standard, but of the actual harvest. The restored Marāthās tried to retain this system; but were compelled by popular resistance to return to the old grain standard. From 1781 to the cession to the English a new *Pathak* system was introduced by leasing the revenue of one or more villages to farmers (*Pathakdārs*) with the object of encouraging cultivation after the desolating effects of Haidar's invasion. This was for a time successful in its object, but quickly became a source of abuse, oppression and lawlessness and was abolished as soon as the British obtained the country. The latter began by reviving Muhammad Ali's system (1800-04) in order to gather information about the real productive power of the land, and then levied money rents imposed in gross on the wet lands of the whole village on leases of varying lengths till 1822-23. In that year the productive value of the wet lands in each village was elaborately recalculated and a money assessment was thereby fixed on each village, which was to vary with considerable variations in the price of grain. This was called the *Olungu* settlement, and it was extended to nearly the whole of the

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District ; some villages being permitted to pay a grain rent on the old Marāthā system and some to pay the value of a share of the actual harvest. This was followed in 1828-30 by the Mottam-faisal settlement, which was accompanied by a survey and was intended to resemble the scientific ryotwāri settlements of other Districts. In effect, however, it only consisted in a modification of the Olungu assessments together with a rule that whatever changes there were in the price of grain the new assessments were not to vary. The assessments were also distributed in a few villages among the actual fields. This settlement was at first only extended to a part of the District, the rest remaining under the Olungu ; but it was extended to all but a few villages of exceptional character in 1859. The Olungu ryots were at that time at a great disadvantage owing to the high prices, and gladly acquiesced in the change. *Pattas* (title-deeds) to individual ryots were first given in 1865, and from that date the revenue system of the District hardly differed in principle from that found elsewhere. Meanwhile varying policies had been adopted in the administration of the less important dry lands ; but both wet and dry were brought into line with the rest of the Presidency by the new settlement of 1894. As a preliminary to this settlement a survey commenced in 1883, by which accurate measurements of the fields were first obtained. The survey disclosed that the actual area under cultivation was five per cent. more than that shown in the accounts ; and the settlement enhanced the total revenue by 33 per cent., or about fifteen and a half lakhs of rupees. The present average assessment on dry land is R. 1-7-8 (maximum, Rs. 7 ; minimum, As. 4), that on wet land in the delta Rs. 7 (maximum, Rs. 14 ; minimum, Rs. 3), and that on the wet land in non-deltaic tracts Rs. 3-6-11 (maximum, Rs. 7 ; minimum, Rs. 3). The revenue from land and the total revenue in recent years are given below in thousands of rupees :—

—	1880-81.	1890-91.	1900-01.	1903-04.
Land revenue	4,997	5,311	7,047	6,825
Total revenue	6,976	7,651	9,948	10,492

There are five municipalities in the Tanjore District, viz., Tanjore, Kumbakonam, Negapatam, Māyavaram and Mannārgudi. Beyond the limits of these towns local affairs are managed by the District board and the six tāluk boards of Tanjore, Kumbakonam, Negapatam, Māyavaram, Mannārgudi and Pattukkottai,

**TANJORE
DISTRICT.**

the charge of each of the latter being conterminous with one of the revenue administrative sub-divisions already mentioned. The expenditure of these boards during 1903-04 was about fifteen lakhs, the principal item being the District board railway and its extension, on which seven lakhs were spent. The total income during the year was about fourteen lakhs. Apart from the municipalities, nineteen groups of villages have been constituted Unions and are administered by panchāyats under the control and supervision of the taluk boards.

**Police and
Jails.**

The control of the police is vested in the Superintendent of Police at Tanjore, an Assistant Superintendent at Negapatam being in immediate charge of the five southern taluks. The force numbers 1,184 constables working in 75 stations under eighteen inspectors. The reserve police at Tanjore number 96 men. There are also 2,013 rural police. The District jail is at Tanjore, and eighteen subsidiary jails can accommodate 358 prisoners.

Education.

The Tanjore District stands next to Madras in the literacy of its population, 10.1 per cent. of its population (20.3 per cent. of the males and 0.9 per cent. of the females) being able to read and write. There is not much difference among the various taluks in this respect, except that Pattukkottai is far behind the others. On the 31st March 1904 the District contained 1,182 primary schools, 78 secondary and seven special schools, besides three training schools for masters and three arts colleges. The girls reading in these numbered 8,092. There were, besides, 585 private schools, 52 of these being classed as advanced, with 13,334 scholars. Of these, 1,302 were girls. The total number of pupils under instruction in the District in 1880-81 was 29,125; in 1890-91, 47,670; in 1900-01, 61,390; and in 1903-04, 70,938.

Of the 1,273 institutions classed as public, eleven were managed by the Education department, 153 by local boards and 27 by municipalities, while 596 were aided from public funds and 486 were unaided, but conformed to the rules of the Education department. The large majority of those under instruction are in the primary classes; but the number who have advanced beyond that stage is unusually large, the District in this respect, as in education in general, being in advance of all others in the Province except Madras City. Of the male population of school age, 25 per cent. were in the primary stage of instruction, and of the female population of the same age 4 per cent. Among Musalmāns the percentages of the scholars of each sex to the male and female population of school age

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were (including those at Korān schools) 99 and 13¹ respectively. There are 158 special schools for Panchamas in the District, and 4,114 Panchama scholars of both sexes were under instruction.

The arts colleges are the Government college at KUMBARONAM, St. Peter's college at TANJORE and the Findlay college at MANNARGUDI.

The total expenditure on education in the District in 1903-04 was Rs. 5,22,000, of which Rs. 2,53,000 were derived from fees. Of this amount, Rs. 2,43,000 (47 per cent.) were devoted to primary education.

Sixteen hospitals and twenty-two dispensaries containing accommodation for 398 in-patients are maintained by the local boards and municipalities. A medical training school is attached to the hospital at Tanjore. In 1903, 411,000 cases, of which 5,200 were those of in-patients, were treated at these institutions and 17,000 operations were performed. The expenditure in the same year was Rs. 87,000, the greater part of which was met from local and municipal funds.

Hospitals and
dispensaries.

During 1903-04 the number of persons successfully vaccinated was 34 per thousand of the population. Vaccination is not compulsory except in the five municipalities.

Vaccination.

F. R. Hemingway, *District Gazetteer*, 1906.

Māyavaram Sub-division.—A sub-division of the Tanjore District of the Madras Presidency consisting of the tāluks of MAYAVARAM and SHIYALI.

Māyavaram Tāluk.—A coast tāluk in the north-east of Tanjore District, Madras, lying between 10° 58' and 11° 15' N. and 79° 31' and 79° 52' E. It has an area of 283 square miles and the population amounted to 247,019 in 1901, as against 244,835 in 1891. In the density of its population it stands sixth of all the tāluks in the Presidency, this being due no doubt to its great agricultural advantages. It is situated wholly in the delta of the CAUVERY river, and more than 99 per cent. of its arable land is under occupation. Moreover as it lies near the sea it receives as much as from 50 to 53 inches of rain. Most of the land is irrigated and on this paddy is usually grown, though ground-nut and gingelly are also raised in fair quantities. MAYAVARAM town, which is the head-quarters of the tāluk, is a municipality with a population of 24,276. The old Danish settlement of TRANQUEBAR lies eighteen miles south-east and is now a declining port. Its population (inclusive of its suburb Poraiyār) is 13,142. Besides these two towns, there are 186 villages in the tāluk. The land revenue and cesses demand for 1903-04 amounted to Rs. 8,88,000.

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Shiyāli Tāluk.—The north-easternmost and smallest tāluk in the Tanjore District, Madras, lying between $11^{\circ} 8'$ and $11^{\circ} 25'$ N. and $79^{\circ} 39'$ and $79^{\circ} 52'$ E. with an area of only 171 square miles. Its boundaries are the COLEROON, the sea, and Māyavaram tāluk, and it is thus rather an out of the way tract. Including its head-quarters, SHIYALI, population 9,722, the villages number only 97. Its population fell to 116,563 in 1901 from 119,803 in 1891, and includes unusually few Muhammadans or Christians. The total land revenue and cesses demand for 1903-04 was Rs. 4,06,000. Being situated in the delta of the CAUVERY river, Shiyāli contains much more wet land than dry; but this is generally not of the best kind because the irrigation channels have deposited most of their fertilising silt before they reach land which extends so far down towards the sea. The large majority of the soil is however alluvial. The Coleroon channels from the Lower Anicut give a better silt deposit, and some of these run through the tāluk. Nearly twenty per cent. of the culturable area is unoccupied. Still its position on the coast results in its receiving the large rainfall of 64 inches, and agriculturally it is prosperous on the whole.

Kumbakonam Tāluk.—An inland tāluk and sub-division of the Tanjore District, Madras, lying on its northern border between $10^{\circ} 47'$ and $11^{\circ} 11'$ N. and $79^{\circ} 7'$ and $79^{\circ} 34'$ E. It is situated in the most fertile part of the CAUVERY delta, the large majority of its soil is alluvial and the rest black soil, and it is an exceptionally rich area. About 47 per cent. of the irrigated fields are assessed at Rs. 9 or over per acre, and 96 per cent. of the dry fields at Rs. 2 or more. Kumbakonam shares with Nannilam the characteristic of possessing far more large landowners than any of the other tāluks in Tanjore and the rent of the average holding is unusually high. It is the most densely peopled tāluk in the District or (with three exceptions) in the Presidency, supporting 1,097 persons to the square mile. In 1901 the population had fallen to 375,031, as against 377,523 in 1891. The most important town is KUMBAKONAM municipality, the head-quarters, population 59,673, and six miles east of this is TIRUVADAMARUDUR, famous for its temple, which has 11,237 inhabitants. There are 307 other villages. Land revenue and cesses, according to the demand for 1903-04, amounted to Rs. 13,17,000. The chief agricultural products of the tāluk are rice, plantains and betel-leaves, which are all largely exported, and the chief industries are the brass and bell-metal work and the silk and cotton weaving of Kumbakonam town.

Negapatam Sub-division.—A sub-division of the Tanjore District of the Madras Presidency consisting of **NEGAPATAM** and **NANNILAM** taluks.

Negapatam Taluk.—A coast taluk in the Tanjore District, Madras. It lies between $10^{\circ} 32'$ and $10^{\circ} 50'$ N. and $79^{\circ} 34'$ and $79^{\circ} 51'$ E. and covers 240 square miles. The population has fallen from 220,165 in 1891 to 217,607 in 1901, but the taluk still stands second in the District and fifth in the Presidency in regard to the density of its inhabitants, who number 907 to the square mile. Its land revenue and cesses according to the demand for 1903-04 amounted to Rs. 5,75,000. Although it lies within the **CAUVERY** delta, the south-easternmost portions are beyond the irrigation system which depends upon this river. It contains no alluvial soil and the land is not of a very high class. The taluk contains proportionately more educated people than any other in the District and it owes this characteristic and its general importance to **NEGAPATAM** town, its head-quarters, which is a large municipality and seaport with a population of 57,190. The only other considerable town is **TIRUVALUR**, noted for its temple and the idol's car belonging thereto, which has 15,436 inhabitants. Besides these, the taluk contains 189 villages.

Nannilam Taluk.—One of the eastern taluks in Tanjore District, Madras, lying between $10^{\circ} 44'$ and $11^{\circ} 1'$ N. and $79^{\circ} 27'$ and $79^{\circ} 51'$ E. Its area is 293 square miles and its population in 1901 was 214,788 against 216,118 in 1891. The taluk is situated entirely within the rich delta of the **CAUVERY** river and is a singularly prosperous tract. The land revenue averages as much as Rs. 4-13-3 per head, and is the highest in any taluk in the District, while the average holding pays an assessment of Rs. 35-0-0, or more than in any other but **Shiyāli**, and there are more large landholders in the taluk than in any other. The rainfall is good (44 to 46 inches), more than half the soil is alluvial, and by far the larger portion of the land is irrigated. **NANNILAM** town, its head-quarters, has a population of 6,727 and **KUDAVA-SAL**, a deputy tahsildār's station, contains 5,419 inhabitants. The taluk is composed of 242 villages, and the demand of land revenue and cesses amounted to Rs. 11,33,000 in 1903-04.

Tanjore Taluk.—The westernmost and second largest taluk and a sub-division in the Tanjore District, Madras, lying between $10^{\circ} 26'$ and $10^{\circ} 55'$ N. and $78^{\circ} 47'$ and $79^{\circ} 22'$ E., and covering an area of 689 square miles. The population was 407,039 in 1901 and 410,447 in 1891. The taluk differs from others in the District in the large number of the thief-caste Kallans it contains. It is

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divisible into two well-marked sections, the first including much of the apex of the CAUVERY delta and the second running up in the south and west to dry uplands resembling those of Pattukkottai taluk. These two tracts are sharply contrasted and the taluk contains some of the best land in the District and also large tracts of the worst. There is more dry land than irrigated, and 47 per cent. of the former is assessed at one rupee an acre or less. Paddy is more widely grown even here than any other crop, but a large area is under *cambu*, *rāgi*, ground-nut and red gram, the last of which is an unusual grain in this District. The land revenue and cesses of the taluk for 1903-04 amounted to Rs. 10,16,000. It contains four considerable towns, and 362 villages. TANJORE, the head-quarters both of the taluk and the District, is an important municipality and industrial centre with a population of 57,870. The sacred town of TIRUVADI has a population of 7,821; the inhabitants of VALLAM, where the Collector resides, number 7,590; and AYYAMPETTAI, population 9,454, is famous for its carpets and mats.

Mannārgudi Sub-division.—A sub-division of the Tanjore District of the Madras Presidency consisting of the taluks of MANNARGUDI and TIRUTTURAIPPUNDI.

Mannārgudi Taluk.—The central taluk in the Tanjore District, Madras, lying between 10° 26' and 10° 48' N. and 79° 19' and 79° 38' E., and covering an area of 301 square miles. Its population is 188,107 and this has remained practically stationary since 1891, when it was 188,112. It contains 193 villages besides the municipal town of MANNARGUDI, which is its head-quarters and has a population of 20,449. The land revenue and cesses demand for 1903-04 was Rs. 6,28,000. The south-western part of the taluk is unirrigated, while the remainder lies within the CAUVERY delta, though it contains no alluvial soil.

Tirutturaippūndi Taluk.—A coast taluk in the south-east of Tanjore District, Madras, lying between 10° 16' and 10° 40' N. and 79° 28' and 79° 52' E., with an area of 485 square miles. Its population in 1901 was 182,981 as against 179,485 in 1891. Part of it is in the CAUVERY delta, but it contains no alluvial soil and the land is generally of an inferior kind. Fifty per cent. of the dry fields are assessed at R. 1-4-0 an acre or less and the taluk is a poor tract compared with most of the others in this District. Education is also backward and the population is sparse. The land revenue and cesses demand in 1903-04 amounted to Rs. 5,09,000. Tobacco and cocoa-nuts are largely grown, and the latter, and also paddy and rice, are exported in

considerable quantities. The taluk contains only 143 villages but includes three considerable towns. Its head-quarters are at TIRUTTURAIPPUNDI, which has a population of 5,400. VEDARANNIYAM (14,138) contains a large salt factory and is at the north-eastern end of the great salt swamp of that name. It is connected with NEGAPATAM by the VEDARANNIYAM CANAL. About ten miles south of it is POINT CALIMERE. MUTTUPET (population 9,099), to the south-west on the Koraiyār river, has all the advantages of a port, although it stands about six and a half miles from the mouth of the river.

Pattukkottai Taluk.—Southernmost taluk and sub-division in the Tanjore District, Madras, bordering on Palk Strait, and lying between 9° 49' and 10° 35' N. and 78° 55' and 79° 32' E. It is in several ways in striking contrast to the other taluks of the District, since practically none of it is watered by the CAUVERY, the greater portion of it is dry land, the small wet area within it is watered by tanks and wells (which sources of supply are almost confined to this and the Tanjore taluks) and the soil is nearly all of a red ferruginous variety which forms arable land of a generally inferior quality. Four-fifths of the total extent is either zamīndāri or inām, a further point of contrast to the rest of the District, but in the remainder the percentage of unoccupied land is higher and the incidence of the assessment per head and the rent of the average holding are lower than in any other taluk. It is not surprising therefore to find that Pattukkottai is the most backward tract in Tanjore in point of education and, though the largest of the taluks, is the least densely peopled of them. Its area is 906 square miles and its inhabitants number only 295,894. The population shows the largest increase in the District (8·9 per cent.) above the figure of 1891 (271,626) but even this favourable symptom has been explained to be due to the influx of labourers for the extension of the District board railway recently under construction. The total land revenue and cesses demand for 1903-04 was only Rs. 2,97,000. PATTUKKOTTAI town, the head-quarters of the taluk, has a population of 7,504, and ADIRAMPATNAM is a small port with 10,494 inhabitants. Besides these places there are 792 other villages in the taluk.

Adirāmpatnam.—A town called after Adivīra Rāman, the well-known Pāndya king, (1562-1610). It is a small port in Pattukkottai taluk, Tanjore District, Madras, and a station on the District board railway, situated in 10° 20' N. and 79° 23' E.

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Population 10,494 (1901). It is the inmost and most protected point in the bay formed by the southern seaboard of Tiruturappundi taluk and the eastern seaboard of Pattukkottai. A brisk trade is carried on with Ceylon, rice and cocoa-nuts being the principal exports and gunny bags, areca-nut, grain and treasure the chief imports. The Musalmān tribe of the Labbais, who are great traders, are a numerous community in the place. There is a salt factory here, and also an old Siva temple containing inscriptions.

Ammapatam.—A small port in Manamelkudi village, Pattukkottai taluk, Tanjore District, Madras, situated in 10° 1' N. and 79° 15' E. Population 3,915 (1901). Its trade is principally with Ceylon, and rice and live-stock are the chief exports, the largest import being unhusked paddy. Coolies for the Ceylon tea plantations travel regularly from here twice a week.

Arantāngi.—The head-quarters of a deputy tahsildār and the terminus of the District board railway, situated in 10° 11' N. and 79° 0' E., in the Pattukkottai taluk, Tanjore District, Madras. Population 2,936 (1901). Laterite is found in large quantities in the neighbourhood and is much used for house-building. Lace and silk cloths are made here, and fabrics are dyed and exported to Rangoon and elsewhere. Arantāngi played a conspicuous part in the early history of the District. It was taken in the fifteenth century from the ruler of Tanjore by the chief of RAMNAD, who was a general of the PANDYA monarch, and was annexed to the dominions of the latter. In the seventeenth century it once more belonged to Tanjore, but about 1646 was again wrested from that state by the Rāmnād chief Raghunātha Tevan. Restored by treaty, it was again captured when war broke out afresh in 1698, and early in the eighteenth century was governed by the son of the Rāmnād ruler. The fortress subsequently changed hands many times, the Tanjore Rājā finally occupying it in 1749. There are ancient inscriptions in the Siva temple and inside the fort.

Ayyampettai.—A town eleven miles north-east of Tanjore in the taluk and District of the latter name in the Madras Presidency. It is a station on the main line of the South Indian Railway and lies in 10° 54' N. and 79° 12' E. Population 9,454 (1901). This is one of the chief seats of weaving in the District. Silk cloths, carpets of cotton, wool and silk and mats made of rushes are largely manufactured here and block-printing of chintzes is carried on to a small extent. There is a particular variety of cloth called *kuttuni* for which Ayyampettai is famous.

The number of weavers is however very small now as compared with former days.

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Calimere, Point (the Calligicum of Ptolemy).—A low promontory in Tirutturaippūndi taluk, Tanjore District, Madras, situated in 10° 18' N. and 79° 51' E., 40 miles from Point Pedro in Ceylon. A light-house was erected on it in 1902. Inland stretches a reserved forest extending over six and a half square miles where antelope, spotted deer and wild pig are to be met with. Ponies are bred in the neighbourhood in small numbers, and tobacco is largely grown. A bath in the sea at Point Calimere is considered sacred by the Hindus and the place has a temple which is an object of pilgrimage. The promontory was once used as a sanitarium but it is now sometimes said to be feverish from April to June.

Coleroon (*Kollidam*).—A northern arm of the CAUVERY which branches off from the parent stream about nine miles west of Trichinopoly in the Madras Presidency. For seventeen miles it runs parallel to the latter river, and then turns towards, and very nearly re-unites with, it. The island thus formed is called the island of SRIRANGAM and lies in Trichinopoly District. At the lower end of the island the Coleroon takes a north-easterly course, skirts the District of Tanjore on the north, and falls into the sea near DEVIKOTTAL.

The waters of the river are largely utilised for irrigation purposes. Across the head, where it branches from the Cauvery, stands the Upper Anicut, a dam constructed between 1836 and 1838 to prevent the Coleroon, which runs in a lower bed than the Cauvery, from abstracting too much of the water in the latter and so injuring the irrigation in Tanjore dependent on the main stream. The Grand Anicut, built by the CHOLA kings a few miles lower down at the point where the Cauvery and the Coleroon nearly meet again, serves a similar purpose. The object of these works is noticed at greater length in the article on the Cauvery. About 70 miles below the Upper Anicut, the Lower Anicut again dams up the Coleroon, but this time for the purpose of providing irrigation in the South Arcot District and a portion of Tanjore. The trunk road from Kumbakonam to Madras passes over this dam. The Vadavār and North Rājā channels lead from it into South Arcot while the South Rājā channel turns into Tanjore. The Lower Anicut system in 1903-04 irrigated 134 square miles in South Arcot yielding a revenue of more than four lakhs and 37 square miles in Tanjore the revenue from which was nearly another lakh.

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The South Indian Railway crosses the river about ten miles from its mouth by a girder bridge. A few yards higher up, a masonry bridge until recently carried one of the main roads. Half of the piers fell during the floods of November 1903, and at present a ferry is supplying its place.

The Coleroon is navigable by light craft for a few miles from its mouth and is used to a small extent for the export of rice. It is altogether 94 miles in length and drains an area estimated at 1,404 square miles.

Devikottai (*Dīvu*, island, and *kottai*, fort).—A ruined fort at the mouth of the river COLEROON in Kattūr village, Shiyāli taluk, Tanjore District, Madras, situated in 11° 22' N. and 79° 48' E. It was captured by the East India Company in 1749 from Pratāp Singh, the Rājā of Tanjore, after two hazardous expeditions from Fort St. David undertaken at the instance of Sayājī, a deposed Rājā, and was thus the first British possession in India obtained by conquest. The first expedition, under Captain Cope, proved unsuccessful owing to various mischances. On the second occasion a larger force under Major Stringer Lawrence effected the capture of the place. In the course of the siege Olive, then a lieutenant, had a narrow escape while leading the attack on the breach. The fort was a mile in circumference with walls eighteen feet high. No factory was established at the spot and the fort was eventually abandoned on the approach of the French in 1758. The French in turn evacuated it after Sir Eyre Coote's victory at WANDIWASH and it was re-garrisoned by British troops in 1760. It has been almost completely destroyed by the floods in the Coleroon.

Kudavāsāl (*Kudam*, pot and *vāsāl*, entrance).—A town in Nannilam taluk, Tanjore District, Madras, situated in 10° 52' N. and 79° 29' E. Population 5,419 (1901). It is a deputy tahsildār's station. Silk cloths for women are woven here. Kudavāsāl and KUMBAKONAM are supposed to have a legendary connexion, both names being said to be derived from the Tamil word for a pot. It is declared that the mouth of a pot of nectar carried by Garuda, the celestial kite who is the vehicle of the god Vishnu, fell at Kudavāsāl and another portion at Kumbakonam.

Kumbakonam Town (Sanskrit *kumbha*, water-pot, and *ghona*, nose; old Tamil *kudandar*).—The head-quarters of the Kumbakonam taluk, Tanjore District, Madras. It is situated on the banks of the CAUVERY and on the main line of the South Indian Railway 194 miles from Madras in 10° 58' N. and 79° 22'

E. Its population in 1871 was 44,444; in 1881 it was 50,098; in 1891, 54,307 and in 1901, 59,673. The place has thus been steadily increasing in size and is now the sixth largest town in the Presidency. Its inhabitants include 1,272 Christians, 2,183 Musalmāns and 87 Jains, the remainder being Hindus.

The town is one of the oldest in southern India. It has been identified with the Malaikūrram which became the capital of the CHOLAS about the seventh century. It has always remained a stronghold of Brāhmanism and Brāhmanical culture. A *math* (religious house) was founded in it by the great Sankarāchārya and contains a valuable library of Sanskrit manuscripts. Many of its shrines bear old inscriptions. The Nāgeswara temple is so constructed that on three days in the year the sun's rays penetrate through the openings in the *gopuram* (tower) and fall on the idol, which is interpreted as an act of worship by the sun. The big Sārangapāni temple has a *gopuram* richly ornamented with figures, a well-painted ceiling and two large and elaborate festival cars of carved wood. One of the shrines in the town is dedicated to Brahmā, a deity who has very few temples constructed in his honour. The Mahāmagham festival which occurs in the town once in twelve years attracts an immense concourse of visitors from all parts of India. It is the popular belief that on this occasion the Mahāmagham tank receives a direct supply of water from the Ganges by underground ways. The last festival of this kind took place in 1897.

In 1854 a provincial English school was started in Kumbakonam by Government. It was made a second-grade college in 1864, advanced classes being added three years later, and it was affiliated to the Madras University in 1877, the high school classes being abolished in 1881. The college has long maintained a high reputation for efficiency, but there is a growing tendency on the part of students to prefer the colleges at Madras. The average attendance in 1904 was 175. There are two English high schools, a Sanskrit high school and a Vedic school maintained by private agency, besides a technical institute.

The chief manufactures of the town are brass, bronze, copper, and lead vessels, silk and cotton cloths, sugar, indigo and pottery. The metal work is the best known of these. The silk industry, though said to be declining, is still considerable, employing as many as 2,000 looms. Cotton weaving has fallen into insignificance of late years. The productions of the town are exported to other districts by rail and the place is also a centre for the collection and export of the locally grown rice, ground-nut, jute and oilseeds.

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A District Court was held at Kumbakonam from 1806 to 1863, and a Sub-Judge and a Divisional Officer are now stationed there. It is also the head-quarters of a Roman Catholic Bishop of the French mission.

The place was made a municipality in 1866. Its average receipts and expenditure in the ten years ending 1902-03 were Rs. 85,000 and Rs. 92,000, respectively. The expenditure includes part of a loan and grant from Government amounting to about a lakh of rupees received before the decennium but spent afterwards. This amount was utilised in constructing drains in some of the streets. A further sum of Rs. 25,000 has been recently allotted for the same purpose. A scheme for supplying the town with water at an estimated cost of Rs. 4,05,000 has been approved by the Sanitary Board but has been found to be beyond the resources of the municipality. In 1903-04 the income was Rs. 91,400, including the house and land taxes (Rs. 36,000), tolls (Rs. 16,700), the animal and vehicle tax (Rs. 7,800) and scavenging and other fees (Rs. 7,000); while the chief items of expenditure were conservancy (Rs. 28,000), hospitals and dispensaries (Rs. 8,000), roads and buildings (Rs. 15,000) and education (Rs. 8,000), out of a total of Rs. 81,500. The municipal hospital contains 72 beds.

Mannārgudi Town (also called *Mannārkovil* or *Rājā Mannārkovil*).—The chief town of the taluk of the same name in the Tanjore District, Madras, standing on the bank of the Pāmaniyār river in 10° 40' N. and 79° 27' E., nine miles south of the railway-station of Nidāmangalam. The population was 20,449 in 1901, of whom 651 were Musalmāns, 540 Christians and 153 Jains, all the rest being Hindus. This is one of the centres of the Wesleyan Mission, which maintains a second-grade college, called the Findlay College, affiliated to the Madras University in 1898. The average attendance in the advanced classes in this during 1903-04 was 58 and in the lower classes 533. In addition a high school is maintained by private agency. Mannārgudi was constituted a municipality in 1866 and its average receipts and expenditure during the ten years ending 1902-03 were Rs. 27,000 and in 1903-04, Rs. 29,000. The chief sources of income are tolls and house and land taxes. A channel from the Vadavār, about twelve miles long, supplies 22 tanks in the town with good water. Mannārgudi is noted for the manufacture of metalware and cloths, and exports paddy and rice in large quantities. Of the many temples in the town, the most important is that to Rājagopālaswāmi which was founded by Kulottunga Chola I in the eleventh century. Two other

shrines bear Chola names and inscriptions of Chola, Pandya and Hoysala kings. Mannārgudi itself was formerly called Rajādhirāja Chaturvedimangalam, obviously a name of Chola origin. An old Jain temple stands in the town and a mile to the west is a ruined fort said to have been built by a Hoysala king.

Māyavaram Town (*Māyūram*).—The head-quarters of Māyavaram taluk, Tanjore District, Madras, and the station of a Deputy Collector. It stands on the banks of the CAUVERY in 11° 6' N. and 79° 39' E., and is the junction of the South Indian Railway main line and the District board railway. Population 24,276 (1901). The town is held particularly sacred by Hindus. During the Tūlā Cauvery festival (October and November) pilgrims gather at Māyavaram from all parts of the Presidency to bathe in the holy river simultaneously with the idol of the local shrine. A large Vishnu temple stands on the northern bank of the Cauvery in Tiruvilandūr. The principal shrine dedicated to Mayūranāthaswāmi is a mile to the south of the river. Here Pārvatī is said to have worshipped Siva in the form of a peacock (*mayūra*), and the name of the town is supposed to have been derived from this incident. Kornād, a suburb of Māyavaram, has long been famous as a weaving centre. The cloths woven here are worn by women of the higher classes throughout India. They are made of a mixture of silk and cotton thread and are dyed in durable dark blue, red and other colours. The industry is not prosperous, owing to the inability of the vegetable dyes used by these weavers to hold their own against imported mineral dyes; and with its decline Māyavaram is tending to become a mere market for the agricultural products of the taluk. The town was constituted a municipality in 1866. Its average receipts and expenditure for the ten years ending 1902-03 were Rs. 39,000. In 1903-04 the income, most of which was derived from school fees and house and land taxes, was Rs. 43,200 and the expenditure Rs. 42,300. The municipal high school is a flourishing institution and the fees derived from it now amount to more than a third of the total income of the municipality. Sanitation is hindered by the fact that the place lies low and has no proper drainage.

Muttupet.—A busy little town in Tirutturaippūndi taluk, Tanjore District, Madras, situated in 10° 24' N. and 79° 30' E. Population 9,099 (1901). It is about six and a half miles from the sea but communicates with it by the navigable river Koraiyār, a branch of the CAUVERY. Possessing the advantage of a protected bay where native craft can moor during bad weather, the town carries on an active trade with Ceylon all the year

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round, the chief export being paddy. It is a station on the District board railway.

Nannilam Town.—Head-quarters of the Nannilam taluk, Tanjore District, Madras, situated in $10^{\circ} 53' N.$, $79^{\circ} 36' E.$ Population 6,727 (1901). Weaving is carried on here on a small scale. The station of this name on the District board railway is about three miles from the town. There is an old temple in the place which is dedicated to Madhuvaneswaraswāmi or the lord of the honey-forest, and it is pointed out as curious that the wild bees still make their nests in this.

Negapatam Town (Ptolemy's *Nigamos* and Rashid-ud-dīn's *Maljattan*).—An important seaport and municipality and the head-quarters of Negapatam taluk, Tanjore District, Madras. It is 212 miles from Madras by the South Indian Railway and its branch the District board line, and lies in $10^{\circ} 46' N.$ and $79^{\circ} 51' E.$ Population in 1871 was 48,525; in 1881, 53,855; in 1891, 59,221; and in 1901, 57,190. It now ranks as the ninth largest town in the Presidency. Hindus number nearly 68 per cent., Musalmāns 22 per cent., and Christians 10 per cent. of its inhabitants. Nagore, which stands to the north but within the municipal limits, is a stronghold of the Marakkāyan traders, a mixed class of Muhammadans. Negapatam was in very ancient times the chief city of the little known Nāga people and from this fact its name (*Nāgapattanam*) was apparently derived. Later, it became one of the earliest settlements of the Portuguese on the east coast and was called by them the city of Choramandel. It was also one of the earliest centres of the Portuguese Christian missions. It was captured by the Dutch in 1660, and was the chief of their East Indian possessions till 1781.

Meanwhile Nagore had been sold to the Dutch by the Rājā of Tanjore in 1773, but was soon afterwards wrested from them by the Nawāb of the CARNATIC with the aid of the English. It was afterwards restored to the Rājā, who made a grant of it to the Madras Government in 1776. During the war of 1780–81 Haidar Ali of Mysore ceded the place to the Dutch, with the result that an expedition from Madras under Sir Hector Munro captured both Nagore and Negapatam itself in November 1781. When in 1799 the Tanjore kingdom came into British hands by treaty, Negapatam was made the District head-quarters and remained so until 1845. A Divisional Officer, an Executive Engineer, a Sub-Judge, an Assistant Commissioner of Separate Revenue, an Assistant Superintendent of Police and a Port Officer are still stationed in it. There are also a branch of the Bank

of Madras and an agent for emigration to the Straits Settlements. The South Indian Railway has extensive workshops in the town and two companies of their Volunteer Corps have their headquarters there. The place contains three high schools for boys, two of them being maintained by missionary bodies. Nagore possesses two Arabic schools and there is another at Negapatam. Of the many temples only one is really ancient. It is dedicated to Kāyārohanaswāmi, and is called Kāronam and occasionally Cholakulavallipattinam in the inscriptions of Rājārāja and other Chola kings. A stone tablet at a small temple records in Dutch that this pagoda was built in 1777 A.D. under the auspices of the Governor Reynier van Vlissingen.

The Nagore *dargāh*, whose white minarets (one of them 90 feet high) are one of the best known landmarks along the coast, was built over the tomb of the saint Mirān Sāhib Makhan. The inscriptions on the tomb relate that the mosque was built in eleven days by Pratāp Singh of Tanjore in Hijra 1171 (A.D. 1757). The Kandiri festival, one of the greatest Muhammadan festivals in southern India, is celebrated here on the anniversary of the saint's death.

Negapatam and Nagore were incorporated as a municipality in 1866. The average receipts and expenditure of the municipal council for the ten years ending 1902-03 were Rs. 77,000 and Rs. 78,000 respectively. In 1903-04 the income was Rs. 76,000, the principal receipts being the house and land taxes (Rs. 27,000), the profession tax (Rs. 9,500), tolls (Rs. 8,000) and scavenging and other fees (Rs. 8,000). The total expenditure of Rs. 75,000 included conservancy (Rs. 29,000), hospitals and dispensaries (Rs. 7,000) and roads and buildings (Rs. 10,500). The municipal hospital was originally constructed by private subscriptions and contains 46 beds. Schemes for the drainage and water-supply of the town have been framed at an estimated cost of Rs. 4,13,000 and Rs. 2,32,000 respectively. The latter project has had to be dropped for want of funds.

Until 1845 Negapatam was the chief port south of Madras, but thereafter its trade declined for some time owing to the superior advantages of TRANQUEBAR, which in that year had become a British possession by purchase from Denmark. But the opening of the South Indian Railway to Negapatam in 1861 restored its trade to the port. A light-house 80 feet high, which has recently been fitted with a revolving light, was constructed in 1869. In 1876, however, the railway brought Tuticorin into touch with Madras, and since then Negapatam has again declined

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in importance. The opening of the line to Kārikal and up the north-eastern coast of the Presidency has still further contributed towards this result. The trade of Negapatam is now chiefly with Ceylon, Burma and the Straits Settlements, and also to a very small extent with the United Kingdom and Spain. Excluding coasting trade, the total imports during 1903-04 amounted in value to 21·3 lakhs and the total exports to 65·7 lakhs. The chief imports were areca-nut (8·3 lakhs), gunny bags, camphor, cotton piece-goods and apparel. Among lesser imports may be mentioned skins, tobacco, miscellaneous provisions, sugar, wrought metals, gums and resins, wood and furniture. The principal exports were rice (22·3 lakhs), cotton piece-goods (6·8), live-stock, ghi, tobacco, cigars, turmeric and skins. The minor exports were fruits and vegetables, chillies, sugar and oil-cake. The coasting trade brought in goods to the value of 23·6 lakhs, and sent out exports worth 9·0 lakhs. Negapatam is also an important centre of emigration to the Straits Settlements and Natal.

Pattukkottai Town.—Head-quarters of the tāluk of the same name in the Tanjore District, Madras, situated in 10° 26' N. and 79° 19' E. Population 7,504 (1901). It is a station on the District board railway. An inscription in the ruined fort relates that this building was erected by one Vānāji Panditar in honour of Shāhji Mahārājā in 1686-87 A.D. In the western part of the town is an elaborately sculptured and ancient Siva temple of considerable size, containing many inscriptions. In 1815 Sarabhoji, the Rājā of Tanjore, erected in the place a miniature fort and column with an inscription in English to commemorate the triumphs of the British arms and the downfall of Bonaparte. Brass vessels, mats and coarse cloths are manufactured in the town.

Shiyāli Town (*Sīrgāli*).—The head-quarters of the Shiyāli tāluk, Tanjore District, Madras, lying in 11° 14' N. and 79° 44' E. Population 9,722 (1901). It was the birth-place of the famous Tamil poet and saint Tirugnāna Sambandha, who lived in the first half of the seventh century. In the Siva temple in it there is a shrine dedicated to this saint and bearing a Chola inscription recording a gift. There are two high schools in the town, one maintained by the Leipzig Evangelical Lutheran Mission and the other by a native gentleman. Shiyāli is a station on the main line of the South Indian Railway. It is noted for mats made of a kind of cyperus. Cloths are also woven in it but they are of an inferior kind.

Tanjore Town (*Tanjāvūr*).—Head-quarters of the tāluk and District of the same name in the Madras Presidency, situated in 10° 47' N. and 79° 8' E. It is on the main line of the South Indian Railway and is 218 miles from Madras and 226 from Tuticorin. The population in 1871 was 52,175; in 1881, 54,745; in 1891, 54,390 and in 1901, 57,870. Tanjore now ranks as the eighth largest town in the Presidency. Eighty-five per cent. of the population are Hindus, there being only 3,600 Musalmāns, 4,796 Christians and 154 Jains in it. Tanjore was successively the capital of the Chola, Naik and Marāthā powers. It stood a siege by Chanda Sāhib and the French in 1749, and by the French under Lally in 1758, and was afterwards captured by Colonel Joseph Smith in 1773, though it was restored in 1776 to the Marāthā Rājā. In 1799 when Sarabhojī, the Rājā of Tanjore, ceded his territory to the British by treaty he retained the town in his own hands. It lapsed to the British Government in 1855 on the death of his son Sivajī without heirs. His four surviving queens, besides other members of the family, still occupy the palace in the centre of the fort. There are two halls in this palace, which are known as the Marāthā and Naik Darbār halls, and in the latter stands a statue of Sarabhojī by Chantrey. The building also contains an armoury and a library of 22,000 volumes in several Indian and European languages, principally in Sanskrit.

Within the great fort, now dismantled, is a smaller erection called the Sivaganga fort. It encloses the sacred Sivaganga tank and the famous Brihadiswaraswāmi temple. The inscriptions on the walls of the latter ascribe its construction to the Chola king Rājārāja I in the eleventh century. It is built on a well-defined and stately plan which was persevered with till its completion, an unusual feature in Dravidian temples. It consists of two courts, of which the first, originally devoted to minor shrines and residences, was converted into an arsenal by the French in 1772, and has not been reappropriated to sacred purposes. The temple proper stands in the second courtyard and is surmounted by a tower 200 feet high. The carvings on this tower are all Vaishnavite, but everything in the courtyard, as well as the idol itself, is Saivite. Strangely enough there is a figure on the northern side of the tower which appears to be that of a European, the popular explanation of which anachronism is that the eleventh century architect foresaw the advent of the British. In front of the temple is a huge monolith representing Siva's bull Nandi and behind it is a shrine dedicated to Subrahmanya, "as exquisite a piece of decorative architecture as is to be found in the South of

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India." The great temple contains a very large number of ancient inscriptions of the Chola and other dynasties. Most of these have been deciphered and many have been published in the second volume of Dr. Hultzsch's *South Indian Inscriptions*.

Under the native dynasties, Tanjore was considered the home of the fine arts. It still produces skilful artisans. In metal-work and in the manufacture of musical instruments the place is perhaps unrivalled in this Presidency, and its silk weaving, lace, embroidery, jewellery, pith-work and artificial garlands have a deservedly high reputation.

Tanjore was made the District head-quarters in 1860, five years after it came into the hands of the British. In addition to the usual staff of District Officers, the Inspector of schools, Southern Circle, has also his head-quarters there. The place also possesses a District Jail which will hold 333 prisoners and has room in its hospital and observation cells, respectively, for fifteen and nineteen more. The present town consists of the fort and two suburbs, Karantattāngudi in the north, where the Brāhman quarter is situated, and Mānambuchāvadi in the south-east, where Europeans reside. The Society for the Propagation of the Gospel, the Methodists, the Lutherans and the Roman Catholics all have mission stations within it. The first of these is the successor of the mission founded in 1778 by the famous Swartz, who resided chiefly in this town from that date to his death in 1798, and to whose memory a marble monument by Flaxman, representing Rājā Sarabhoji's last visit to the dying missionary, still stands in the Swartz Church within the fort. Saint Peter's College, founded as an English school by Swartz in the eighteenth century, rose to be a second-grade college in 1864 and a first-grade college ten years later. It was affiliated to the University of Madras in 1880 and has an average attendance of 130 in the college classes and 238 in the lower classes. It has throughout been managed by the Society for the Propagation of the Gospel. There are also an English high school maintained by private agency, a training school for teachers and a technical institute.

The town was constituted a municipality in 1866. The average receipts and expenditure of the council during the ten years ending 1902-03 were Rs. 1,33,000 and Rs. 1,34,000 respectively. In 1903-04 the total income of Rs. 1,03,000 included the house and land taxes (Rs. 27,000), the vehicle and animal tax (Rs. 7,500), tolls (Rs. 17,000), water-rate (Rs. 19,000), and markets and slaughter houses (Rs. 11,500). The main heads of expenditure were water-supply (Rs. 20,000), conservancy (Rs. 21,500), roads and

buildings (Rs. 10,700) and education (Rs. 11,000) out of a total of Rs. 96,000. The town is now supplied with water pumped from wells sunk in the bed of the Vennār. The works were opened in 1895 and cost about three and a half lakhs. The average expenditure on water-supply for the succeeding eight years, inclusive of extensions, was Rs. 26,600 and the average receipts were Rs. 15,900. A system of drainage for the Fort was carried out in 1840 during the Rājā's time; and a scheme for the disposal of the sewage on a farm at a cost of Rs. 3,34,000 has been investigated but is in abeyance for want of funds. The principal hospital in the town was founded and endowed by public subscription in 1880 and is under the management of the District board. It contains 144 beds and has attached to it a medical school the staff of which was recently re-organised and considerably strengthened.

Tirutturaippūndi Town.—Town on the Mulliyār river in Tanjore District, Madras, situated in 10° 32' N. and 79° 38' E. It is the head-quarters of the tāluk of the same name and is a station on the District board railway. Its inhabitants number 5,400. There is an old Siva temple in the town which contains a number of inscriptions.

Tiruvadamarudūr (or *Madhyārjunam*).—A town in Kumbakonam tāluk, Tanjore District, Madras, situated in 11° N., and 79° 27' E. Population 11,237 (1901). It stands on the banks of the Virasolanār river and is a deputy tahsildār's head-quarters and station on the main line of the South Indian Railway. It contains a very old Siva temple well sculptured, which is of considerable size and has a fine *gopuram* or tower. In this are a large number of Chola inscriptions and two grants of the Vijayanagar dynasty. The family of Amar Singh, who was deposed from the throne of Tanjore in 1798, resides in this town.

Tiruvādi.—A town with a population of 7,821 situated six miles north of Tanjore in 10° 53' N. and 79° 6' E., in the tāluk and District of that name in the Madras Presidency. It was the head-quarters of a separate tāluk of the same name until 1860. A deputy tahsildār and a District Munsiff are now stationed at the place. It is also called Tiruvaiyār (in Sanskrit *Panchanadam*), or the holy five rivers, from the fact that the COLEROON, the CAUVERY, the Kodamurutti, the Vettār and the Vennār all run in nearly parallel courses within a distance of six miles from it. It is for this reason considered a particularly sacred place and is one of the chief centres of Brāhmanism in the District. From the southern bank of the river its temples give it almost the appearance of a miniature

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Benares. Of a group of seven shrines locally known as Saptasthalam that at Tiruvādi is the principal. During the great annual festival the gods from the other temples are brought to visit the deity in this. The concourse of pilgrims on this occasion is exceedingly large. There are many old inscriptions in the temple and more than forty of them have been transcribed by the Government Epigraphist. All but four of these are of Chola origin; two belong to the Vijayanagar, one to the Pāndya and one to the little known Udaiyār dynasty. Tiruvādi contains a Sanskrit high school under the management of the Tanjore taluk board which has 100 boarders, and also a Vedic school and an English high school, both of which are maintained by native gentlemen.

Tiruvālūr.—A town in Negapatam taluk, Tanjore District, Madras, situated in 10° 46' N. and 79° 39' E. Population 15,436 (1901). Until 1860 it was the head-quarters of a separate taluk. At present a deputy tahsildār and a District Munsiff are located at it. It is the junction of the Tanjore-Negapatam branch of the South Indian Railway with the District board railway. A European firm owns a rice mill in the town and a flourishing high school is maintained by the taluk board. There is also a richly endowed temple which is very largely attended by pilgrims during the annual festival in the hot weather, the sacred car being the largest in the District. The temple is picturesquely situated on the eastern bank of a large square tank which has fine flights of stone steps leading down to the water and a small island-temple in its centre. The small shrine of Achaleswara contains inscriptions of the CHOLA kings Rājārāja and Rājendra as well as some records of the later rulers of this dynasty, and of the PANDYAS.

Tranquebar (vernacular, *Tarangampādi*, which would mean 'the village of the waves'; but *Sadanganpādi* according to an old inscription).—A seaport in Māyavaram taluk, Tanjore District, Madras, situated 18 miles north of Negapatam in 11° 2' N. and 79° 52' E. Population (including its suburb Poraiyār) 13,142 (1901). Tranquebar first rose into importance as a Danish settlement, the Danish East India Company having in 1616 obtained a grant of land from the Rāja of Tanjore and built a fort there. In 1624 it passed to the king of Denmark. In the war of 1780–81 Haidar exacted a fine of Rs. 1,40,000 from the Danes for supplying arms to the Nawāb of Arcot. In 1801 Tranquebar was taken by the English, but was restored in 1814. It was finally purchased by the Indian Government in 1845 for twelve and a half lakhs of rupees.

In 1706 the first Protestant missionaries to visit the District, Ziegenbalg and Plütschau, landed at Tranquebar and founded a mission there under the auspices of king Fredrick IV of Denmark. A church, one of the earliest Protestant places of worship in India, was built in 1718. In the 18th century the mission spread its influence over a great part of the Tamil country, but not long after Swartz left Tranquebar in 1762 it began to languish and by 1820 had practically come to an end. In 1841, however, it was succeeded by the Dresden Society or, as it was called later, the Leipzig Evangelical Lutheran Mission. The mission maintains in the town a training school for teachers, an industrial school and a printing press, besides boarding schools for boys and girls. There is also an upper secondary school in the place.

Tranquebar was a busy port in Danish times. Under English rule, it drew away the trade of Negapatam owing to its better anchorage and continued to flourish until 1861, when the railway restored the trade to Negapatam. It is now of greatly diminished importance and its trade consists chiefly of the export of rice on a small scale.

The town was the head-quarters of the Collector from 1845 to 1860 and of the District Judge from 1860 to 1884 with a short interval. A deputy tahsildār is now the chief officer there. It is one of the healthiest spots in the District and has a quaint beauty of its own. The old citadel, called the Dansborg, for some time served as a jail but is now in ruins. A small portion is however used as a customs office. The European bungalows are mostly within the fort, but the bulk of the native population resides in Poraiyār, a mile inland.

Vallam.—A small town in the Tanjore taluk and District in the Madras Presidency, where the Collector of Tanjore usually resides. It is situated on a small plateau seven miles south-west of TANJORE in 10° 43' N. and 79° 5' E. and is one of the pleasantest and healthiest places in the District. Population 7,590 (1901). It had formerly a strong fort, built presumably by the Naik Rājās in the 16th or 17th century, which was taken by the British under Colonel Joseph Smith on behalf of the Nawāb of Arcot in 1771, and remained in their occupation until its restoration to the king of Tanjore in 1776. Few traces of the defences now survive, except the moat. A sacred tank within the fort is hewn in the solid rock and unusually deep. It is called *Vajra-tirtham* (the diamond pool) and the popular tradition is that it was dug by Indra. An old Siva temple

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by its side contains many inscriptions. The quartz crystals found near Vallam are made into spectacles and ornaments, and are well known as Vallam stones. There are extensive gravel quarries in the neighbourhood.

Vedāranniyam (Tamil *Tirumaraikkādu*).—A town situated in 10° 22' N. and 79° 50' E. in Tirutturaippūndi taluk, Tanjore District, Madras. It is the head-quarters of a deputy tahsildār and has a population of 14,138 (1901). The great Vedāranniyam salt swamp, which covers a tract about 30 miles long by four or five miles wide, lies to the west of the place. It is filled by two periodical high tides which occur about the full moon in May and June respectively. About two feet of water is retained by means of an earthen bank with sluices ; as it evaporates, salt is formed in large translucent blocks. This is stored in the Government factory at Vedāranniyam and conveyed thence to the depôt at Negapatam by the VEDARANNIYAM CANAL.

Vedāranniyam Canal.—This canal was constructed in 1869. Inclusive of its subsequent extension to the salt swamp south of VEDARANNIYAM, its total length from Negapatam to its southern end is 35½ miles, made up of thirteen and a quarter miles of the already existing channels of the Adappār, Vellār and Kaduvaiyār rivers, ten and a quarter miles of drainage streams intercepted in their passage down to the sea, and twelve miles of new cuts connecting these together. It was designed, and is chiefly used, for the transport of salt from the Vedāranniyam factory to the depôt at Negapatam but, owing to the absence of a good road between these two places, it is also resorted to for general traffic. The cost of the canal amounted to Rs. 1,34,000. It is maintained jointly by the Public Works department and the District board.

TRICHINOPOLY DISTRICT.

Trichinopoly District.—An inland District in the south of the Madras Presidency, lying between $10^{\circ} 16'$ and $11^{\circ} 32'$ N. and $78^{\circ} 8'$ and $79^{\circ} 30'$ E., and having an area of 3,632 square miles. It takes its name from the famous town which is its administrative headquarters. The word is popularly derived from Trisirāppalli meaning the town of Trisira (the three-headed), a *rākshasa*, or demon, the brother of Ravana, the villain of the Rāmāyana, who is said to have ruled the place. The District is bounded on the east by Tanjore, the dividing line for some distance being the COLEROON river; on the north by South Arcot and Salem; west by Coimbatore and Madura; and south by the State of Pudukkottai.

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Boundaries, configuration and hill and river systems.

A small rambling range of hills called the PACHAIMALAIS (Green hills), which extend into Salem District, lies in the north-western corner, and towards the southern and south-western borders the country is broken up by rocky hills covered for the most part with scrub jungle; but elsewhere the general character of the District is an undulating plain divided east and west by the valley of the sacred CAUVERY and dotted here and there with small hills of which the great rock fort in TRICHINOPOLY town, the neighbouring Golden Rock near the Central jail, and Ratnagiri near Kulittalai are the principal examples.

The Cauvery is one of the chief natural features of the District. It runs across the middle from east to west and at the holy island of SRIRANGAM splits into two branches, of which the one retains the original name of Cauvery and the other is called Coleroon. These are the most important rivers in the District, and receive the greater part of its drainage. In the north, a small area drains into the VELLAR, which forms the northern boundary for some distance.

The flora of the District presents no points of interest, resembling closely that of the other areas along the eastern side of the Peninsula. The growth on the Pachaimalais is of the drier deciduous type, characterised by the abundance of *Zizyphus* and *Terminalia*.

Botany.

The eastern half of the more northern of the two portions into which Trichinopoly is divided by the alluvial valley of the Cauvery is occupied by sedimentary deposits; the western by archæan gneisses and granites, mostly hornblendic. The southern of these two portions is formed of archæan rocks, granites and gneisses, overlaid in the south-east corner of the Trichinopoly taluk by a thin bed of conglomeratic laterite which has been carved by local denudation into a number of patches forming miniature plateaux. Crystalline limestone occurs in several places north and south of the Cauvery, the prevailing colours being light grey, white, pink (of great beauty)

Geology.

TRICHINOPOLY DISTRICT.

and bluish. Two great and generally rich beds of magnetic iron lie at the southern end of the Pachaimalais. Neither the limestone nor the iron has been worked, though the quantity available is large. The oldest of the sedimentary deposits referred to above are representatives of the Upper Gondwāna or Rājmahāl system, a formation remarkable for containing great quantities of plant remains of jurassic age. The so-called plant beds near Uttattūr in the Perambalūr tāluk contain numbers of these fossil plants. Their age is considered to be intermediate between the Rājmahāl beds proper and the Jubbulpore group of the Indian jurassic rocks. An irregular area nearly 400 square miles in extent, lying between the Cauvery and the Vellūr, is occupied by cretaceous rocks, the fossils of fauna in which have excited much interest among scientists. The most noteworthy of the cretaceous deposits are the coral reef limestones near Uttattūr and the shell limestone of Garudamangalam, a very fine hard bluish grey rock, in parts translucent and largely made up of beautifully preserved gasteropoda and lamelli-branchiata often retaining their original polish and sometimes their peculiar coloration. This is the so-called Trichinopoly marble, and is much valued for decorative purposes. Resting on the uppermost cretaceous rocks on the eastern side of the District is an unfossiliferous gritty sandstone, very frequently ferruginous, which covers the greater part of the Udaiyārpālaiyam tāluk, and is itself very largely overlaid with red sands. In the lateritic sands near Nanniyūr, two palæolithic implements were found, one sharp-pointed, and the other oval. To the north of the same village is a bed of true flints, said to be unique in southern India.

Fauna.

Panthers and bears are occasionally found in and about the Pachaimalais, but there is no other large game in the District. Snipe, teal and duck are however plentiful.

Climate and temperature.

The Pachaimalai hills are malarious, but elsewhere the climate is on the whole unusually dry and, perhaps on this account, is healthy both for natives and Europeans. It is also more than usually hot. The annual mean temperature at Trichinopoly itself (84°) is higher than at any head-quarter station in the Presidency except TINNEVELLY, CUDDAPAH and NELLORE.

Rainfall.

The annual rainfall in the District as a whole averages 34 inches, of which sixteen are received during the north-east monsoon, twelve from the south-west rains and five in April and May. The fall in the northern tāluks, especially in Udaiyārpālaiyam and Perambalūr in the north-east corner, is heavier than in those in the south, averaging 39 inches against 31 in the latter. Few natural calamities have taken place. Cyclones occur but rarely. The country is not specially liable to scarcity, as the Cauvery, and Coleroon, on which the greater portion of the irrigated lands are dependent, seldom fail. The chief danger to which the people are exposed is

from the floods in these two rivers. These, especially when accompanied by heavy local rainfall, are apt to breach the embankments on either side of the river beds and cause severe damage to crops. The banks are being gradually strengthened throughout.

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The history of Trichinopoly goes back far into antiquity. The capital of the kings of CHOLA, who are mentioned in the Asoka inscriptions of the third century B.C., and by Ptolemy in the second century A.D., was originally at Uraiyūr, now a suburb of Trichinopoly town, and in the twelfth century at GANGAIKONDAPURAM in the Udaiyārpālaiyam tāluk. The ruins of a splendid temple and tank are still standing at this latter place. About the middle of the thirteenth century, the District passed under the Hoysala Ballālas of Dorasamudra and soon afterwards under the Pāndyas of Madura, who, in spite of occasional interruptions, continued in possession of it till the beginning of the fourteenth century when it was overrun by the Muhammadans under Malik Kāfūr, the general of Alā-ud-dīn Khiljī, the Muhammadan ruler at Delhi. About 1372, it became part of the rising Hindu empire of Vijayanagar, and during the sixteenth century after the downfall of that dynasty, passed into the hands of the Naik rulers of MADURA. Viswanātha, the founder of this line, is said to have built the greater part of the fort and town of Trichinopoly, and about the middle of the seventeenth century Chokanātha, another of the line, removed his capital from Madura to Trichinopoly and erected there the building known as the Nawāb's palace—using, it is said, a great deal of the material of the celebrated palace built at Madura by his famous grandfather Tirumala Naik.

History.

The last of the Naik rulers died childless in 1731, and the subsequent disputes as to succession were taken advantage of by the Nawāb of ARCOT. Chanda Sāhib, his Dīwān, seized Trichinopoly and treacherously imprisoned queen Minākshi, one of the claimants. She poisoned herself, and her rivals called in the Marāthās, who took Trichinopoly in 1741 and appointed Morāri Rao, the adventurous Marāthā ruler of GOOTY, governor over the town. Two years later, the Nizām-ul-mulk, Sūbahdār of the DECCAN, invaded the CARNATIC and Trichinopoly surrendered to him. He appointed Anwar-ud-dīn as Nawāb of the Carnatic in 1744, and from that date Trichinopoly passed under the nominal rule of the Nawābs of Arcot. During the wars of the Carnatic between 1749 and 1761 the famous rock fortress of Trichinopoly underwent more than one siege. On the first occasion (in 1751), Muhammad Alī, the son of Anwar-ud-dīn, and his allies the English were besieged by Chanda Sāhib, an aspirant to the Nawābship of the Carnatic, and his supporters the French. A number of engagements took place between the two parties, chiefly on the Srirangam island and in the villages bordering on the old road from Trichinopoly

TRICHINOPOLY DISTRICT.

to Madras, Clive taking a conspicuous part in the operations, and in the end Chanda Sahib and the French were defeated.

The second siege occurred in 1753. Nanjarāj, the general of the Mysore army which had been helping the English and Muhammad Ali in the previous operations, claimed Trichinopoly as his reward, alleging that it had been promised him by a secret treaty with Muhammad Ali. His claim being disregarded, he laid siege to the place and attempted to reduce it by famine. Major Lawrence came to its relief. The French had meanwhile been greatly strengthened by reinforcements sent by Dupleix, and quitting Srirangam they crossed the Cauvery and encamped on the plain close by the present Fakir's Rock. Here they were attacked by Lawrence and defeated in the engagement which the historian Orme calls the battle of the Golden Rock. Lawrence proceeded to Tanjore to obtain reinforcements from the Marāthās. On his return he found that the French had blockaded the city on every side. He provoked them to a general engagement and defeated them at the battle of the Sugar-loaf Rock (now called the Golden Rock), not far from the present Central jail.

When war broke out again in 1756, the French under D'Auteuil once again tried to take Trichinopoly. The vigilance of Captain Calliaud, who hurried to its relief by forced marches from Madura, frustrated their designs. Their last attempt upon the rock was in 1759, when a detachment sent by Lally occupied Srirangam. Lally's defeat at WANDIWASH upset his plans, and the fall of PONDICHERY early in 1761, which established the success of the British arms in Southern India, and the treaty of Paris in 1763, which recognized Muhammad Ali as Nawāb of the Carnatic and placed Trichinopoly under his government, ended the conflict between the two nations. In 1768 Haidar Ali of Mysore devastated the District and on the renewal of the war in 1780 he invested its capital. His defeat at PORTO NOVO in the succeeding year compelled him to withdraw. The only other attempt upon the fort was made by his son and successor Tipū in 1790, but it ended in nothing.

In 1781, the Nawāb assigned the revenues of the Carnatic, including Trichinopoly, to the English, and civil officers, known as Superintendents of the Assigned Revenue, were for the first time appointed to administer them. In 1792, the assignment was surrendered to the Nawāb, but Trichinopoly continued to be commanded by British Officers. In 1801 it was ceded to the British with the rest of the Carnatic by the Nawāb of Arcot.

Archæology.

Prehistoric kistvaens occur in the Perambalūr tāluk and in one which was opened in 1897 were found pieces of human bones, a small polished earthen pot six inches in diameter, and the point of an iron sword. Some Roman coins have also been discovered. Buddhist images of stone exist in the Udaiyārpāliyam, Kulittalai, Perambalūr and Trichinopoly tāluks. The District is supposed to

have been situated at the tri-junction of the territories of the PANDYA, Chola and Kongu dynasties, and tradition places one of their boundaries in the extreme west along the river Karaipottānār (the name means the river that marks the boundary), which falls into the Cauvery about twelve miles to the west of Musiri, and along a large earthen embankment which continues the line of the river southwards into the Kulittalai tāluk on the other side of the Cauvery. The hamlet of Palayasengadam in this tāluk is locally declared to have once been a Chola capital, the name being said to be a contraction of Palaya Jeyamkondacholapuram or the old town of the victorious Chola. An extensive ruined camp close by, and a very perfect and well constructed stone tank are pointed out in support of the tradition. The later Jeyamkondacholapuram is in the Udaiyārpālaiyam tāluk.

Of the temples of archaeological interest the most important are those on the Trichinopoly Rock and at Srīrangam (and Jambukeswaram), Gangaikondapuram and SAMAYAPURAM, while the most notable piece of civil architecture is the palace of the zamīndār of Udaiyārpālaiyam.

The District comprises 937 towns and villages. Its population in 1871 was 1,200,408; in 1881, 1,215,033; in 1891, 1,372,717; and in 1901, 1,444,770. The increase during these 30 years has been at about the same rate as in the rest of the Presidency, namely between one-fifth and one-fourth, and Trichinopoly is now one of the half-dozen most densely-peopled Districts in Madras. The very small advance between 1871 and 1881 was due to the great famine of 1876-78. The District is divided into the five tāluks of Kulittalai, Musiri, Perambalūr, Trichinopoly and Udaiyārpālaiyam, statistical particulars of which are appended :—

Tāluk.	Area in square miles.	Number of		Population in 1901.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Udaiyārpālaiyam	753	2	223	300,708	399	+ 3·5	14,384
Perambalūr	674	...	128	204,257	303	+ 4·7	8,022
Musiri	762	1	156	294,383	386	+ 4·2	14,347
Kulittalai	901	...	229	263,331	292	+ 8·1	11,931
Trichinopoly	542	2	191	382,091	705	+ 5·9	46,843
Total	3,632	5	932	1,444,770	398	+ 5·2	55,527

The head-quarters of the first four of these are at the places from which they are named but that of the last is at Jeyamkonda-

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cholapuram. The chief towns are the municipalities of TRICHINOPOLY, (population 104,721) and SRIRANGAM (23,039) and the Unions of TURAIYUR (12,870), UDAIYARPALAIYAM (7,553), and ARIYALUR (7,370).

Out of every 100 of the people 92 are Hindus, three are Musalmāns, and five are Christians. These last increased during the decade 1891-1901 considerably faster than the population generally. Tamil is the prevailing vernacular, being spoken by 84 per cent. of the population, but 12 per cent. talk Telugu (in Musiri taluk the percentage is as high as 21) and some 2 per cent. ordinarily speak Kānarese.

Their
castes and
occupa-
tions.

About 35,000 people (of whom 29,000 are the shepherd Kurumbas) belong to Kānarese castes and 178,000 (among whom the Kāpus, Balijās, Chakkiliyans and Oddes are the most numerous) are Telugus by race. The rest of the Hindu population consists mainly of Tamils. The five castes which occur in the greatest strength, all being usually cultivators, are called Palli (148,000), Paraiyan (136,000), Ambalakāran (129,000), Vellala (112,000), and Pallan (109,000). The third of these, the Ambalakārans, are more numerous in Trichinopoly than in any other District. So also are the two castes of the Muttiriyans and the Urālis, who are in some obscure manner connected with them, being perhaps descended from the same parent stock. Other castes which are found in greater strength in the District than elsewhere, are the Sudarmāns and Nattamāns. These two bodies of agriculturists are singling themselves out by following some of the Brāhmanical customs. Of the Musalmāns the majority are Labbais, a mixed race of enterprising traders, sprung from unions between the followers of the Prophet from northern India and Tamil women of this Presidency.

Except that the people are even more exclusively agricultural than usual, 73 per cent. of them subsisting by the land and 2 per cent. more by pastoral callings, their occupations in the mass present few peculiarities.

Christian
missions.

Of the 76,660 Christians in the District in 1901, 72,352 were Roman Catholics and of these 71,961 were natives. In 1623 Robert de Nobili of the famous Madura mission established a Jesuit station at Trichinopoly. In the next century progress was checked there, as elsewhere, by Papal decrees prohibiting certain Hindu customs tolerated till then among Hindu converts, by the cessation of support from Portugal, and by the suppression of the Society of Jesus by the Pope in 1773. The Society was, however, re-established in 1814, and in 1836 the Madura mission was entrusted to its care. Father Louis Garnier de Falton, who was put in charge of the congregation of Trichinopoly, revived the work of the mission, which had sunk very low, and built the Cathedral in the cantonment and

a house which he originally intended for a college but which is now used as a residence by the Bishop and his clergy. In 1846, the Right Rev. Alexis Canoz, S. J., was appointed first Vicar Apostolic, and when in 1886, the Hierarchy of India was constituted, the Vicariate was made into a diocese under it and the episcopal residence was located at Trichinopoly. The portion of the District lying to the south of the Cauvery and the Coleroon belongs to this diocese, while that on the north belongs to the diocese of KUMBAKONAM. The former diocese is suffragan to the metropolitan see of Bombay and the latter to the see of Pondicherry. The Goanese Roman Catholic congregation is scattered about in small communities and is under the jurisdiction of the arch-diocese of Goa and the diocese of San Thomé of Mylapore.

The Protestant missions working in the District are the Society for the Propagation of the Gospel and the Leipzig, Lutheran and Wesleyan missions. From 1762 to 1778 Swartz, the famous missionary of the TRANQUEBAR Danish Mission, worked at Trichinopoly with the help of the Society for the Promotion of Christian Knowledge, and after him the Rev. C. Pohle carried on the work for over 40 years. In 1825 the S. P. G. took it up, and continues to do considerable work to this day. The Wesleyan Missionary Society began its labours in 1847 and the Leipzig Lutheran Mission in 1850. The converts belonging to these three missions number about 2,700, 400 and 1,200 respectively.

Of the total area, according to the classification at settlement, 6 per cent. is alluvial land, 40 per cent. black soil and 54 per cent. red earth. The first of these occurs in the valleys of the Cauvery and Coleroon. The regada, or black cotton soil, prevails in the uplands lying to the north of these rivers, occupying about two-thirds of the area in the east of them; towards the west black soils are found in the lower ground but are overlaid with sand on the higher levels. South of the Cauvery the upland is generally covered by poorer soils, chiefly of a gravelly or sandy nature, and over wide tracts these are so impregnated with soda salts as to be almost entirely bare of vegetation. Both wet (irrigated) and dry crops are mostly matured by means of the north-east monsoon in October and November, but cultivation is begun before this sets in.

General agricultural conditions.

Of the 3,632 square miles of the District, ryotwāri and inām villages occupy 2,820 square miles, zamīndāris 634 and whole inām villages 178. Agricultural statistics are available only for 3,041 square miles, of which, in 1903-04, 315 square miles (10 per cent.) were forest, 429 (14 per cent.) were not available for cultivation, 271 (9 per cent.) were cultivable waste not yet taken up for cultivation, 507 (17 per cent.) current fallows, and 1,519 (50 per cent.) formed the area cropped. Statistics by tāluks for that year are appended :—

Agricultural statistics and principal crops.

TRICHINOPOLY
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Tāluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irriga- ted.
	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.
Udaiyārpālaiyam ...	546	28	43	361	31
Perambalūr ...	657	83	108	401	37
Musiri ...	693	154	69	417	73
Kulittalai ...	597	40	20	476	53
Trichinopoly ...	543	10	31	371	145
District Total ...	3,041	315	271	2,026	329

The staple food-grains of the District are rice, *cholam* (*Sorghum vulgare*), *cambu* (*Pennisetum typhoideum*), *varagu* (*Paspalum scrobiculatum*), and *rāgi* (*Eileusine coracana*). The area under these crops in 1903-04 amounted to 1,320 square miles or 78 per cent. of the total extent cultivated, the respective percentages to this extent of the area under each of them being 21, 16, 15, 15 and 11. Other food-grains occupied 9 per cent. The only other crops worth notice are gingelly (*Sesamum indicum*, 22,000 acres), ground-nut (35,000) and cotton (17,000). The Udaiyārpālaiyam and Perambalūr tāluks mainly produce *cambu* and *varagu*, Musiri and Kulittalai *cholam* and *cambu* and Trichinopoly *cholam* and *rāgi*. Cotton is grown mostly in Musiri and Perambalūr and ground-nut almost exclusively in Udaiyārpālaiyam tāluk. The seed of the latter which has been recently introduced from Mauritius is said to give a much better yield than the native seed. Otherwise there have been no recent improvements in agricultural practice. The crops raised on the Pachaimalais do not differ materially from those cultivated on the plains.

Extension
of cultiva-
tion.

As compared with the average of the five years before the famine of 1876-78, the area in occupation in the quinquennium preceding the re-settlement of the District in 1894-95 shewed an increase of 8·3 per cent., and the average of the eight years succeeding this an increase of 9·1 per cent. The average area occupied in the five years before the 1901 census rose by 1·2 per cent. above the average of the five years preceding the enumeration for 1891, against an increase in the population of 5·2 per cent. The population is thus increasing more rapidly than the area under cultivation. About 300 square miles are still available for cultivation, nearly two-thirds being in the Perambalūr and Musiri tāluks. The ryots have availed themselves of the Land Improvement Loans Act to only a limited extent, Rs. 94,000 having been advanced between 1888 and the end of June 1903. The money has been mostly applied to the construction and repair of wells.

Bullocks and buffaloes are both used for agricultural purposes, but they are usually undersized and of no well defined breed. They are bought and sold at the weekly local markets, of which those at Manappārai, Turaiyūr and Ariyalūr are the most important. A better class of animal is imported from Salem and Mysore and sold at the annual Samayapuram cattle fair. But latterly this has unfortunately been closed to bullocks from these two places lest plague, which was raging in them, might be introduced into the District. Sheep and goats are of the usual varieties and are kept chiefly for the sake of their manure and skins.

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Cattle, sheep and goats.

Of the total area of ryotwāri and minor inām land cropped (1,519 square miles), 339 square miles, or 22 per cent., is irrigated. Of this, 160 square miles, or nearly half, is watered by channels from the Cauvery and Coleroon, 91 square miles from tanks and 77 square miles from wells. The principal channels are ancient works constructed by former native governments. They are supplied by *korambus* or temporary dams annually constructed in the bed of the rivers and are used not only for direct irrigation, but also to conduct water to the tanks. They are annually washed away again when the rivers rise in flood. Up to 40 years ago they were managed by the villagers but they are now under the control of Government. The whole system is still a very rough-and-ready one, and stands in marked contrast to the splendid irrigation works which span the Cauvery and Coleroon (see CAUVERY) within the District for the benefit of the Tanjore delta immediately adjoining. The tanks in the District number 1,590 and the wells, which irrigate nearly as wide an area, 37,000.

Irrigation.

Trichinopoly contains 305 square miles of reserved forest and 10 square miles of reserved lands. The Pachaimalais contain some teak, blackwood (*Dalbergia latifolia*), sandal and bamboos, as well as *Albizzia*, *Terminalia* and *Pterocarpus*. The reserves in the plains and on the low hills, as well as the plantations on the banks of the Cauvery and Coleroon, are chiefly used as fuel reserves. Several varieties of the *Acacia* (*arabica*, *planifrons*, and *leucophlea*) abound in the uplands, while the trees principally grown in the plantations are the *Acacia arabica*, casuarina, *kodukkāpuli* (*Pithecolobium dulce*), *vāgai* (*Albizzia Lebbek*), *gette* (*Dalbergia sissoo*), *nām* (*Melia azadirachta*) and *nāval* (*Eugenia jambolana*). The forest area in the adjoining Tanjore District being inconsiderable, the Forest Officer of Trichinopoly is in charge of it also.

Forests.

There is no mining in the District except some surface quarrying of laterite, white clays and granite. Of the last, the black hornblende variety is much prized and largely used in building temples. The clays are white varieties used for pottery and for painting the *nāmams* or sect-marks worn by Vaishnavites on their foreheads.

Minerals.

TRICHINOPOLY DISTRICT.

The pottery is of the ordinary designs ; when burnt, the clay assumes a bluish-white tinge. The shell marble of Garudamangalam is worked to a small extent. Crude and refined saltpetre are made in considerable quantities. The unworked minerals are iron, limestone, phosphatic nodules, gypsum, mica, magnesia, and garnet. Phosphatic nodules containing about 57 per cent. of phosphate of lime are found in the neighbourhood of Uttattūr, over a tract of country one mile in width and ten miles in length, both on the surface and imbedded in the clay, but their conversion into soluble manure is attended with some difficulty. Gypsum occurs in the neighbourhood of Uttattūr and Maruvattūr in fibrous or transparent plates, but it cannot be obtained in any quantity free from clay, which destroys its whiteness. The mica, found near Manappārai, will not divide properly into scales. Magnesite strings in travertine or calcareous tufa, apparently due to the action of old thermal springs, are met with at Tripangali and Vālikandapuram. In one place in the crystalline limestone massive garnet (calderite) has been found.

Arts and
Manufac-
tures.

The arts and manufactures of the District are unimportant. Weaving occupies the largest number of persons, but as a rule only coarse fabrics are made. Fancy cloths of cotton and silk with borders of silver thread are, however, made by the Patnūlkārāns of Trichinopoly town. These are much used by the richer classes of Muhammadans and are exported to various places in the Presidency. The silk is imported raw and is cleaned and dyed by the weavers. The silver thread used for the borders is generally imported from Europe, but a specially good, and proportionately expensive, variety is sometimes obtained from Kumbakonam. Woollen blankets of an inferior kind are made by the Kurumbas in many villages, especially in the Musiri and Perambalūr tāluks. They are generally woven of black wool clipped from sheep reared by the Kurumbas themselves. White blankets and woollen and cotton carpets are also manufactured to a limited extent.

Trichinopoly gold and silver ware was once famous and in great demand ; but a decline has occurred owing to competition from Madras. There is still, however, a fair local demand. The work is rougher than the frosted silver ware made in Madras, but is by no means destitute of fancy and originality. Brass and copper vessels and plates are made at Trichinopoly and a few other villages. The copper vessels are made by Goanese native Christians. They are devoid, or nearly so, of all ornament. Worn out copper coin, sold at the Treasury for its value as metal, is used for casting idols and for making brass. A well-known artificer of brass and copper idols lives near Lāṅgudi village. Glass bangles are made by Gāzula Baliḷa Chettis in the south of the District from earth obtained from Puḍukkottai territory and in the Uḍaiyārpālaiyam tāluk. The estimated value of the annual production is about Rs. 12,000. There

are also a few manufacturers of ornaments such as pith models, encrusted metal ware, and paintings on talc and ivory. The two former, and also the silk cloths already mentioned, gained prizes at the Delhi Darbār Exhibition, the pith working receiving, in addition, a bronze medal. This last is cheap and decidedly effective. Favourite subjects for it are models of the various famous temples, and these are one of the best means available of giving an untravelling European an idea of the characteristics of South Indian Hindu architecture. The lightness of these models and the ingenious way in which they are packed renders them suitable for export. They are not as well known as they should be.

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Among the manufactures and industries may be mentioned the two screw cotton presses, one at Trichinopoly and the other at Ariyalūr, in which about 600 tons of cotton are pressed annually. Seven tanneries are working in and about Trichinopoly town. The value of the annual output of tanned skins is estimated at over five lakhs, and the leather is largely exported to England. Outside the Madras Presidency, Trichinopoly town is best known for its cigars, of which some 12 million, valued at about Rs. 75,000, are annually manufactured and exported. The tobacco leaf is mostly obtained from DINDIGUL. The industry has suffered heavily from the competition of Madras and Dindigul cigars wrapped with the milder leaf grown in Java and Sumatra, but good plain cheroots are still turned out at reasonable prices. There are several iron screw oil presses in Trichinopoly town, in which lamp oil is extracted from castor seed. The cold-drawn oil is heated and then put into casks for export. Without this precaution it is apt to become rancid.

The chief exports of the District are cereals and pulses, chillies, cotton, gingelly, ground-nut, plantains, cocoa-nuts, betel leaf, jaggery (coarse sugar), tanned hides and skins, castor oil, oil-cake, salt-petre, stone and cigars. Most of these are sent to adjoining Districts. Ground-nut, which is now largely grown in Udaiyārpālaiyam tāluk, is exported to Kumbakonam and Cuddalore for English, French and native firms. Tanned hides and skins are sent to Madras and thence to England. Plantains are exported to Mysore State and cocoa-nuts go as far north as the Nizām's Dominions. Cigars are sent all over India and also abroad. Cotton is railed to Madras and VIRUDUPATTI. Oil-cake goes to TUTICORIN, probably for export by sea to Ceylon. The chief imports are grain and pulse from Coimbatore; castor seeds from the same District and Salem; cotton seeds from Virudupatti; timber, cocoa-nut oil, pepper, and areca-nuts from Malabar; raw tobacco from Madura and Coimbatore; kerosene oil from Madras; piece-goods and twist from Madras and Bombay; and salt and salt-fish from Tanjore and Tinnevely. Trichinopoly town is the chief centre of general trade, as a large portion of the rail-borne traffic has to pass through it, the tract of country to the north of the

Com-
merce.

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Cauvery and Coleroon rivers being accessible only by the bridges which cross these rivers near Trichinopoly town. Considerable traffic between Udaiyarpālaiyam tāluk and Kumbakonam passes over the bridge on the Lower Anicut (see CAUVERY) across the Coleroon. Among minor centres of trade may be mentioned Ariyalūr, where there is a cotton press, Perambalūr and Turaiyūr. The principal trading castes are the Chettis and the Labbais. There are several Nāttukottai Chettis, Gujarātis and Mārwaris in Trichinopoly town. Most of the internal trade is effected through the weekly markets, of which 24 are under the control of the local boards. The right to collect fees at these was leased in 1903-04 for Rs. 14,000. The most important are at Ariyalūr, Manappārai and Turaiyūr. It is in contemplation to lay out the fees collected at the first of these in bridging a large river which crosses the road from that town to TANJORE.

Railways and Roads.

The railways of the District include the main line of the South Indian Railway, and its branch from Trichinopoly to Erode. The former enters the District from Tanjore on the east, passes through its head-quarters, and thence runs southward across it. The Erode branch runs northward from Trichinopoly and thence proceeds westward along the southern bank of the Cauvery into the Coimbatore District. The section from Tanjore to Trichinopoly and thence to Erode was originally built on the standard gauge and was opened for traffic as far as Trichinopoly Fort in 1862, and to Karūr (in Coimbatore) in 1866. The line to Trichinopoly was converted to metre-gauge in 1875, and that to Erode in 1879.

The District board has recently begun to levy a cess of three pies in the rupee of land assessment for the construction of such local steam tramways or railways as may eventually be decided upon. It is also in contemplation to build a standard gauge line, connecting with the other great broad-gauge systems, from ARKONAM, through TIRUKKOYILUR and Trichinopoly, and on to RAMNAD and the proposed port on PAMBAN island. This would greatly benefit the north of the District, which is at present much isolated.

The total length of metalled roads is 596 miles and of unmetalled 145 miles. With the exception of about 37 miles of unmetalled roads maintained by the Public Works department, all these, as well as the Cauvery and Coleroon bridges, are at present in charge of the local boards. Avenues have been planted along 663 miles. The chief lines are the Madras trunk road from the north of Perambalūr to Madura, and a series of lesser routes radiating from the head-quarters to Karūr, Dindigul, Pudukkottai, Tanjore, Udaiyarpālaiyam and to Salem District through Perambalūr, Turaiyūr and Musiri. The large number of these roads is a severe tax upon the resources of the boards. Their chief defect lies in the many small unbridged

streams which cross them. These are torrents in the monsoon and sand heaps in the dry season. Tolls are levied at fifteen places, the right to collect them being leased annually. The lease fetched Rs. 55,000 in 1903-04.

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There are 35 ferries across the Cauvery and Coleroon, the boats used being circular coracles made of hides stretched on a light frame work. These ferries were leased out in 1903-04 for Rs. 15,000. The most important is that which plies between the towns of Musiri and Kulittalai. The chief bridges are that across the Cauvery connecting Trichinopoly with Srirangam island and town and that over the Coleroon joining the opposite side of the island with the northern bank of that river. The Grand Anicut and Upper Anicut (see CAUVERY) both carry bridges, but as each of these crosses only one of the two rivers they are only useful for the limited amount of traffic which goes from the mainland to the extremities of the Srirangam island. The Lower Anicut bridge, as already mentioned, forms an important outlet for traffic.

Trichinopoly appears to have suffered in the famines of 1804, 1807, 1811, 1814 and 1833 but no detailed particulars are available. During the 1866 famine an average of 2,495 people were gratuitously relieved daily during the four months August to November, but the numbers on relief-works were very small. The maximum number relieved in any month was 4,166 in September 1866, and the total cost to the state was only Rs. 6,000. In the famine of 1876-78, the average number of people relieved during the 22 months from December 1876 to September 1878 was 4,423, *viz.* 2,318 on works and 2,105 gratuitously. The maximum number relieved in any one month was 20,550 (December 1877). The cost of the famine to the state was 5 lakhs (one lakh for gratuitous relief and four for works). The District suffered comparatively little and distress was due less to failure of crops than to high prices caused by the exportation of grain to other areas. There has been no famine since.

For administrative purposes the five taluks are grouped into three sub-divisions, the officers in charge of which are usually all native Deputy Collectors. These are the Trichinopoly sub-division, consisting of the Trichinopoly taluk only; the Musiri sub-division, comprising Musiri and Kulittalai; and the Ariyalūr sub-division, made up of Perambalūr and Udaiyārpālaiyam. A tahsildār and a stationary sub-magistrate are posted at the head-quarters of each taluk, in addition to deputy tahsildārs at Trichinopoly town, Lālugudi (Trichinopoly taluk), Turaiyūr (Musiri taluk), Manappārai (Kulittalai taluk) and Kilapalūr (Udaiyārpālaiyam taluk). These officers have both revenue and magisterial powers. There are also benches of magistrates for Trichinopoly and Srirangam towns. The superior staff of the District consists of the usual officers. The Collector is *ex officio* Political Agent for Pudukkottai State. Trichinopoly town

District
sub-divisions
and
staff.

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is the head-quarters of a Deputy and an Assistant Commissioner of Salt and Abkārī Revenue, of a Superintending Engineer and of the South Indian Railway.

Civil Justice and Crime.

Civil justice is administered by a District Judge and the four District Munsiffs of Trichinopoly, Srīrangam, Kulittalai and Ariyalūr. The two former both hold their courts in Trichinopoly town and have jurisdiction over different parts of the Trichinopoly tāluk, the Srīrangam Munsiff taking, roughly speaking, the part of it which lies north of the Cauvery and the Trichinopoly Munsiff the rest. The other two Munsiffs try cases arising in the revenue sub-divisions of Musiri and Ariyalūr respectively. Criminal justice is administered on the usual lines, there being a Court of Sessions besides the subordinate magistrates already mentioned and the three full-power Divisional officers. The District is no more addicted to crime than its neighbours, but the system of paying thieves rewards for the recovery of property stolen instead of reporting the thefts to the Police prevails to an unusual extent and takes unusual forms. The Kallans, the most criminal caste, exact, for example, what amounts to black-mail from all classes, even from Europeans, by ensuring that those households which employ a watchman belonging to this community shall be exempt from thefts but that those which do not shall suffer proportionately. This practice is a relic of the old native police system under which every one paid *kāval* (watch) fees to the watchmen and the watchmen were bound to make good any losses which were due to theft, and its eradication is a matter of the greatest difficulty. In Madura, recently, the whole population combined against these exactions of the Kallans and after several riots and some bloodshed were successful in breaking them down to some extent.

Land Revenue administration.

No detailed information is available regarding the revenue system in force under the Chola and Naik dynasties, but it is known that the land-tax collected by them amounted as a rule to half the gross produce and often more. Under Muhammadan rule, which immediately preceded the British occupation, the revenue was collected in kind in irrigated tāluks, the crops being generally equally divided between the Government and the ryot after a deduction of 5 per cent. of the gross produce had been made for cultivation expenses. In certain cases, however, the ryots were allowed to take from 55 to 68½ per cent. of the produce. The fees due to the village servants, which varied from 23 to 28 per cent. of the gross produce, were paid by the ryots out of their share. In the dry portion of the country the land-tax was collected in money, the rates in some villages being based upon the crop raised and in others upon the nature of the soil. The sale of grain was a strict Government monopoly and large profits were made from it.

When the country came under the British Government, the Muhammadan system was at first adhered to, except that payments in kind were commuted into a money assessment. But the resources of the country had been exhausted by previous misgovernment and by war and famine and this land-tax pressed heavily on the people; the evil was aggravated by frequent floods, by deficient rainfall and by a fall in the price of food-grains. Various experiments were made to lighten the burden, a triennial lease, a decennial lease, a settlement with each ryot instead of with the head of the village or the village community, the reduction of the assessments and the measurement of the fields and classification of their soils by the karnams or village accountants; but up to 1854 agricultural depression continued to be more or less marked. One great reason was the extraordinary fall in the price of produce, which made all fixed money rents difficult to meet, and was due to causes which were in operation throughout India. Owing to the slow development of export trade and the remittance of a considerable amount of specie to England, the currency of the country had become insufficient for its requirements under the altered conditions brought about by British rule, namely, the development of internal traffic and the substitution of cash payments for payments in kind both in the receipts of taxes and the disbursements by Government. The revenue system was moreover very complicated and required amendment and simplification, and the need of a professional survey and settlement was much felt.

The survey was commenced in 1854-55 and the settlement in 1858-59. Soils were classified on a fixed plan and the rates of assessment fixed were 21 in number for irrigated lands (varying from Rs. 7-8-0 per acre to Rs. 1-0-0) and 19 for dry lands, varying from Rs. 3-8-0 to Rs. 0-4-0. The averages for wet and dry lands were respectively Rs. 4-4-0 and about Rs. 1. These rates were introduced in 1865 and, though the survey had shown that the area under cultivation had been understated in the old accounts by seven per cent., they resulted in a decline of 25 per cent. in the revenue demand for the District. Irrigation of second crop was charged from one-third to one-fifth, according to the quality of the source from which it was watered, of the assessment on the first crop, subject to a minimum charge of one rupee per acre. The cultivated land on the Pachaimalai hills was assessed at 8 annas and 4 annas per acre, the latter rate being applied to the *punalkādu* or hoe cultivation in vogue there. All these assessments included a road fund rate of 2 per cent. on the land revenue, but not the fees to village servants, for which a cess of $6\frac{1}{4}$ per cent. on the revenue was separately levied.

This settlement continued in force for the usual period of 30

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years. In July 1891 a new survey was begun and it was completed in 1893-94. In the following year a new settlement was made. In the Cauvery valley and in the case of lands under the Coleroon, Amarāvati and Nandiyār rivers the wet lands, which had for the most part been under-assessed before, and the dry fields among them were classified afresh on the lines previously adopted in the adjoining District of Tanjore. For this tract the revised rates were twelve in number, varying from Rs. 12 to Rs. $3\frac{1}{2}$ per acre on wet land, and eleven in number for dry land, varying from Rs. 7 to 8 annas. Those fields in the Cauvery valley which had a sufficient and steady supply of water for two crops were registered as permanent double-crop lands and were charged $1\frac{1}{2}$ times the single crop assessment, whether a second crop was raised or not. In other parts of the District, composition for the second crop charge was allowed at one-third, one-fourth, one-fifth or one-sixth of the first crop assessment according as the land was watered by irrigation works of the second, third, fourth or fifth classes respectively. No composition was allowed in the case of sources of the first class, but half the first crop assessment was levied. In these parts, the wet and dry assessments were enhanced, in proportion to the rise in prices, by about 20 and $12\frac{1}{2}$ per cent. respectively; there was no re-classification of the soils but certain tanks were raised from a lower to a higher class with reference to their improved capacity for irrigation. The average assessment throughout the District on dry land is Rs. 1-0-3 (maximum, Rs. 5; minimum, 8 annas) and on wet land Rs. 6-5-11 (maximum, Rs. 12; minimum, Rs. 3-8-0).

The effect of this re-settlement was to raise the ryotwāri land revenue demand from Rs. 15,97,000 to Rs. 19,12,000, or by 19·7 per cent., but the increase has not injuriously affected agricultural interests, as appears from the facts that grain prices remain steadily at a higher level than formerly, and that the price of land has not fallen. The rates adopted do not include the road cess of 2 per cent. as in the previous settlement; in its place the land cess is levied separately as elsewhere at one anna in the rupee of the land revenue, or $6\frac{1}{4}$ per cent., under the Local Boards Act. The revenue from land and the total revenue in recent years are given below in thousands of rupees:—

		1880-81.	1890-91.	1900-01.	1903-04.
Land revenue	...	1,610	1,862	2,672	2,489
Total revenue	...	1,990	2,628	3,688	3,755

Outside the two municipalities of Trichinopoly and Srīrangam local affairs are managed by the District board and by the three tāluk boards of Trichinopoly, Musiri and Ariyalūr, the areas under the control of which correspond with those of the three revenue sub-divisions of the same names. The aggregate expenditure of these boards amounted to Rs. 3,37,000 in 1903-04 of which Rs. 1,91,000 was laid out on roads and buildings. The chief source of income is as usual the land cess. Thirteen Union panchāyats have been constituted under the Local Boards Act to look after sanitation in the smaller towns.

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DISTRICT.
—
Local
boards.

The District Superintendent of Police is also *ex officio* Superintendent of the force in the Pudukkottai State. In Trichinopoly there are 56 police-stations and one outpost and the strength of the force in 1904 was eleven Inspectors, 87 head-constables and 624 constables, besides 936 rural police or *talaīyāris*. The Central jail in Trichinopoly town holds 1,373 prisoners. The convicts are largely employed in weaving blankets for native troops and for prisoners in the different jails from the wool removed from skins when they are tanned. Hand-loom of the usual pattern are employed. Besides the Central jail nine subsidiary jails contain accommodation for 152 male and 55 female prisoners.

Police and
Jails.

Trichinopoly ranks ninth among the 22 Districts of the Presidency in the literacy of both its male and female population, the percentages of persons able to read and write being 12·9 for males, 0·8 for females, and 6·6 for the two sexes together. Education, as might be expected, is most advanced in the Trichinopoly tāluk; Musiri, Udaiyārpālaiyam and Kulittalai may be ranked together; while Perambalūr is the most backward. The progress which has taken place in the last 20 years is shown by the fact that in 1880-81 the number of pupils under instruction was 10,786; in 1890-91, 24,728; in 1900-01, 33,325; and in 1903-04, 37,318.

Education.

On the 31st March 1904, the number of educational institutions in the District was 1,024, including 738 public and 286 private. Of the former, 697 were primary schools, 30 secondary, and nine training or other special schools, and there were two arts colleges in Trichinopoly town maintained respectively by the Jesuit Mission (St. Joseph's) and the Society for the Propagation of the Gospel. The girl students numbered 4,167. Five institutions were managed by the Educational department, 94 by the local boards, and thirteen by the municipalities, while 365 were aided from public funds, and 261 were unaided but conformed to the rules of the Educational department. The five Government schools consist of a training school for masters at Trichinopoly, with an upper primary school attached, a lower secondary vernacular school for girls at Srīrangam and the primary girls' schools at Perambalūr and Jeyamkondachola-

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puram. The Society for the Propagation of the Gospel and the Roman Catholic mission have each a school for the training of mistresses. The technical schools include two which teach shorthand and typewriting respectively, and the Puttūr and Irungalūr industrial schools for women managed by the S. P. G. In the latter two the girls are instructed in lace-making. The District board maintains an itinerating sessional school, in which village school masters are educated and prepared for the primary examination for a few months at certain centres. Of the male population of school age 22 per cent. are in the primary stage of instruction and of the female population of the same age 4 per cent. The corresponding percentages for Musalmāns (who however form only a small fraction of the population) are 75 and 4 respectively. Panchama pupils to the number of 2,614 are under instruction at 68 schools specially maintained for depressed castes.

The total expenditure on education in 1903-04 was Rs. 2,96,000, of which Rs. 1,46,000 was met from fees. The outlay on primary education was nearly 41 per cent. of the whole.

Hospitals and dispensaries.

The District possesses four hospitals and eleven dispensaries. Two of the former belong to the municipalities of Trichinopoly and Srirangam, one, at Irungalūr, to the S. P. G. and the fourth, at Ariyalūr, to the taluk board. The dispensaries are all under the management of the local boards. The hospitals contain accommodation for 78 males and 55 females. The total number of in-patients treated in 1903 was 1,900 and of out-door patients 191,000. The number of operations performed was 5,800. The expenditure amounted to Rs. 44,000, the bulk of which was met from local and municipal funds. In addition, a police hospital and a charitable dispensary are maintained by the Jesuit mission at Trichinopoly. The patients treated in these in the same year numbered 300 and 30,000 respectively.

Vaccination.

As regards vaccination in rural tracts, the District occupies a middle place among its fellows. In 1903-04 the number of successful vaccinations was 28 per 1,000 of the population, the mean for the Presidency being 30. In the municipalities of Trichinopoly and Srirangam the proportion was 75 and 53 respectively, the Presidency average for all municipalities being 50. Vaccination is compulsory in these two towns and in eight out of the thirteen Unions. F. R. Hemingway, *District Gazetteer*, 1906.

Ariyalūr Sub-division.—A sub-division of the Trichinopoly District of the Madras Presidency consisting of the UDAIYAR-PALAIYAM and PERAMBALUR taluks.

Udaiyarpalaiyam Taluk.—Taluk in the extreme north-east of the Trichinopoly District, Madras Presidency, situated between 10° 54' and 11° 26' N. and 78° 59' and 79° 30' E., with an area of

753 square miles. It is bordered on the north by the VELLAR river and on the south by the COLEROON. At the south-eastern extremity is the Lower Anicut across the latter river, and over this passes the trunk road from KUMBAKONAM to MADRAS. The population in 1901 was 300,708 against 290,563 in 1891. Of the total area 204 square miles are included in the Udaiyarpālaiyam and Ariyalūr zamīndāris. The towns are UDAIYARPALAIYAM, population 7,553, and ARIYALUR, 7,370, and there are 228 other villages. The head-quarters of the tahsildār are at Jeyamkondacholapuram. The general aspect of the tāluk is flat; the soil is for the most part a mixture of red sand and clay, but strips of alluvium run along the banks of Vellār and Coleroon rivers and on the west. Throughout the greater part of the Ariyalūr zamīndāri the land is black cotton soil thinly spread over a substratum of limestone. This tāluk benefits most by the north-east monsoon and its average annual rainfall (39 inches) is almost the heaviest in the District. The area cultivated in 1903-04 was 361 square miles, the principal crops being rice, *cambu*, *rāgi*, *dāl*, ground-nut and gingelly. The land revenue and cesses demand was Rs. 4,01,000. About 17,600 acres of Government land and a considerable portion of the zamīndāris are covered with a jungle of low brushwood (*Memeeylon edule*), of which large quantities are exported for fuel to Kumbakonam and other villages in the Tanjore District.

Perambalur.—Tāluk in Trichinopoly District, Madras Presidency, lying between 10° 55' and 11° 32' N. and 78° 40' and 79° 10' E., to the south of the VELLAR in the north of the District. Head-quarters, the village of the same name. The area is 674 square miles, and the population in 1901 was 204,257 against 195,006 in 1891. The tāluk contains 128 villages and the land revenue and cesses demand in 1903-04 was Rs. 4,01,000. The general aspect of the tāluk is flat except in the north-west, where the PACHAIMALAIS, which separate it from Musiri, run for a short distance into it. From these hills, up to and along the banks of the Vellār, stretches a continuous plain of black cotton soil in which are large tracts of stiff black clay. In the southern portion of the tāluk the country is rocky and the soil as a rule poor. Channels from the Vellār and its two affluents the Kallār and Chinnār irrigate a portion of the tāluk, but otherwise the irrigated crops depend upon tanks and wells. The rainfall is usually the highest in the District (39 inches). The area still available for cultivation is large, being nearly two-fifths of the total unoccupied extent in the District.

Musiri Sub-division.—A sub-division of the Trichinopoly District of the Madras Presidency consisting of the MUSIRI and KULITTALAI tāluks.

Musiri.—Tāluk in the Trichinopoly District, Madras Presidency, lying between 10° 54' and 11° 23' N. and 78° 10' and 78° 52' E.,

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with an area of 762 square miles. Its population rose in 1901 to 294,383 against 282,619 in 1891. The taluk contains one town, TURAIYUR, population 12,870, and 156 villages. The land revenue and cesses demand amounted to Rs. 5,02,000 in 1903-04. Musiri is bounded on the south by the CAUVERY river. The PACHAIMALAI HILLS occupy the northern part and the KOLLAIMALAIS, which lie entirely within the Salem District, form the boundary at the north-west corner. South-west of the Kollaimalais is a detached hill, the Talamalai, which is a prominent object in the landscape and commands a fine view. An attempt was once made to make it a hot weather residence for the Collectors of Trichinopoly. There is another small hill (Tiruvengimalai) about three miles to the west of Musiri from the top of which a good panorama of the Cauvery valley can be obtained. The Turaiyūr zamindāri lies in this taluk. The Kāttuputtūr *mittah* in the south-western corner is the only estate of this description in the District and was transferred from Salem in 1851. It comprises five villages and pays an annual peshkash of Rs. 15,900. It was created by Government in 1802 and given to one Sarvottama Rao, then head sheristadār of the Salem Collectorate.

Kulittalai.—Taluk in Trichinopoly District, Madras Presidency, lying between $10^{\circ} 16'$ and $10^{\circ} 59' N.$, and $78^{\circ} 8'$ and $78^{\circ} 43' E.$, and covering 901 square miles. It is the largest but the most sparsely populated taluk, its inhabitants numbering 292 per square mile against an average of 398 for the District. Its population rose in 1901 to 263,331 against 243,700 in 1891. The taluk contains 229 villages, and the land revenue and cesses demand amounted to Rs. 3,73,000 in 1903-04. The head-quarters are at Kulittalai village. The Amarāvati river irrigates a few villages in the north-west corner of the taluk and the Cauvery, which forms its northern boundary, waters a narrow strip of land along that side. This tract is very fertile, but the soil in the remainder of the taluk is generally poor. There are low hills covered with scrub jungle in the south and south-west. Two of the many large bosses of gneiss with which the District is studded are in this taluk; one of these, called Ratnagiri, is about five miles to the south south-west of Kulittalai village. The southern portion of the taluk, consisting of the Marungāpuri and Kadavūr zamindāris, and 32 Government villages, comprised the old Manappārai taluk and was transferred from the Madura District in 1856.

Trichinopoly Taluk.—Taluk lying between $10^{\circ} 38'$ and $11^{\circ} 3' N.$ and $78^{\circ} 28'$ and $79^{\circ} 1' E.$, in the centre of the District of the same name in the Madras Presidency. It forms a revenue sub-division by itself, and its chief town, TRICHINOPOLY, population

104,721, is the head-quarters of this and of the District. The municipality and island of SRIRANGAM have a population of 23,039. The tāluk is divided into almost equal portions by the valley of the CAUVERY and COLEROON. Its area is 542 square miles and it contains 193 towns and villages. Its inhabitants numbered 382,091 in 1901 against 360,829 in 1891, and it contains the largest and densest population of any tāluk in the District. The land revenue and cesses demand in 1903-04 was Rs. 8,13,000.

Ariyalūr Town.—Chief town of the small zamīndāri of the same name in the Udaiyārpālaiyam tāluk of Trichinopoly District, Madras Presidency, lying in $11^{\circ} 8' N.$ and $79^{\circ} 5' E.$ Population 7,370 (1901). It is the head-quarters of the Ariyalūr sub-division, which is in charge of a native Deputy Collector and Magistrate, and comprises the tāluks of Perambalūr and Udaiyārpālaiyam. It also contains a District Munsiff's court and a hospital and Messrs. Binny & Co. have a screw cotton press there. Satins of various patterns are made in the town by the foreign weaver caste of the Patnūlkārāns, and are most handsome and effective and have a wide reputation. The chiefs of Ariyalūr zamīndāri experienced numerous vicissitudes during the wars of the CARNATIC and the government of the Nawāb. When the Trichinopoly District passed into the hands of the East India Company in 1801, the poligār, or chief, was in receipt of a monthly allowance of Rs. 700, the estate being under the management of an agent of the Nawāb. The zamīndāri continued under the management of the Company for some years, the proprietor being allowed one-tenth of its net income, but in 1817 he obtained a *sanad* (title-deed) for the village in which he resided and a number of others adjoining it, the annual value of which was equal to one-tenth of the gross revenue of the estate, and was required to pay a nominal rent of about Rs. 1,090. The zamīndārs are Vanniyas by caste, and originally held the estate as *arasukāvalgārs* or heads of police. The property has since been dismembered into seventeen portions as a result of civil court sales held to discharge the debts incurred by its owners. Ariyalūr has a particularly fine market, which is regarded as one of the best in south India. A large temple of comparatively recent date, about four miles from the town, is a sort of local Lourdes, devout Hindus taking their sick to it in the hope that their cure will be effected at the hands of the founder of the temple.

French Rock.—A little rock situated in $10^{\circ} 49' N.$ and $78^{\circ} 40' E.$, about a mile to the east of TRICHINOPOLY town, in Trichinopoly tāluk and District, Madras Presidency, and to the north of the Tanjore road at the point where it is crossed by the Uyyakondān channel. It has two prominences with a saddle between. In the siege of Trichinopoly by Chanda Sāhib and the French in 1751, the latter

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occupied the rock and mounted on it two 18 pounders; hence its name. The guns were however at too great a distance to make any impression on the walls of the Trichinopoly Fort. Some time after (April 1752) the French abandoned for a time all their posts to the south of the CAUVERY, except Tiruvarambūr (Erumbiswaram). In 1753, Major Lawrence pitched his camp a little to the south-east of the French Rock in order to facilitate the junction with his own force of the re-inforcements which were expected from Madras. The remains of the redoubt which protected the left of his camp are still to be seen about 300 yards north of the railway and $1\frac{1}{2}$ miles north-east of the Golden (or Sugar-loaf) Rock. After the arrival of these re-inforcements the battle of the Sugar-loaf Rock was fought (September 21st, 1753), in which the French and Mysore forces were utterly defeated. In the Central jail at Trichinopoly are two old battered guns, one still spiked, which are supposed to have been taken in this fight.

Gangaikondapuram.—A village possessing an ancient history and a famous temple, situated in the Udaiyārpālaiyam tāluk of the Trichinopoly District, Madras Presidency, in $11^{\circ} 12' N.$ and $79^{\circ} 23' E.$, about six miles east of Jeyamkondacholapuram, the headquarters of the tāluk, and one mile west of the trunk road from Madras to KUMBAKONAM. It is now an unimportant agricultural village with a population of only 2,702 (1901), but historically and archæologically it is one of the most interesting places in the District. The name as now spelt means literally the city visited by the Ganges and is popularly derived from a well in the temple which according to tradition is connected by underground ways with the Ganges. The story is that Bānāsura having been disabled from going to the Ganges for his bath, Siva made the river appear in this well and thus enabled the demon to obtain salvation. The name is quite certainly however a contraction of Gangaikondacholapuram, the city founded by Gangaikonda-Chola (the Chola who conquered the country round the Ganges), this surname having been borne by the CHOLA king Rājendra-Chola I. The city, of which the remains still lie scattered in the neighbourhood, was the residence of the Chola kings from Rājendra-Chola I. to Kulottunga-Chola I., A.D. 1011-12 to 1118.

The most prominent object in the ruins is the great temple, which resembles in many respects the famous shrine of TANJORE. Bishop Caldwell thought this latter was probably copied from it, but the present belief is that it was founded by Rājārāja, the father of Rājendra-Chola I., who was also the founder of the Tanjore temple, and that therefore the two buildings were both erected about the same time. The temple consists of one large enclosure, measuring 584 feet by 372. This was evidently once well fortified by a strong surrounding wall with a two-storied colonnade all round and

batteries at each corner. In 1836, however, the batteries were almost entirely destroyed and most of the wall removed to provide materials for the Lower Anicut across the COLEROON which was then under construction. The wall is being gradually re-built and there are traces of three bastions, one at each end of the eastern wall and another in the centre of the west wall. The remains of two other bastions in front of the temple are said to be buried in the débris of the *gopuram* (tower) over the eastern entrance, which is now almost completely in ruins. This *gopuram* was evidently once a very fine structure, being built entirely of stone except at the very top whereas in almost every case all but the lowest storey of these towers consists only of brick and plaster. The ruins of six other *gopurams* are said to have once existed, but there is now no trace of them. The *vimāna* or shrine in the centre of the court-yard is a very conspicuous building and strikes the eye from a great distance. The pyramidal tower above it reaches the great height of 174 feet. All the lower part of this building is covered with inscriptions. They relate chiefly to grants to the temple made in the reigns of Ko Rāja-kesari-varma Udaiyār, Srī Vira Rājendra Deva, Kulottunga Chola Deva, Kulasekhara Deva and Vikrama Pāndya Deva. One grant was made by Sundara Pāndya in the second year of his reign, and another inscription which is imperfect probably refers to the Vijayanagar dynasty. There were a large number of *mantapams* (halls) and small buildings all round the inner side of the enclosing wall; but most of these have been pulled down and the materials carried off, and the rest are in ruins. Among them is a round well about 27 feet in diameter, down to which leads a flight of steps surmounted by a figure of a huge dragon (*yāli*) put up, as a tablet shows, by the zamīndār of Udaiyārpālaiyam. This dragon is perhaps the most striking figure in the temple precincts. It may be described as a cat-like sphinx. The steps to the well pass between its fore-legs. There is also a bull, very much resembling the famous one in the Tanjore temple. It is so placed that, when the doors of the shrine are open, it can contemplate the idol at the end of a long dark corridor.

The carving on the *vimāna* is very fine, and includes all the principal Saivite deities, etc. The boldness and the spirit of the chief figures and the absence of grossness in the representations bring to mind the old Jain temple, said to be of the fifth or sixth century, in CONJEEVERAM. These two buildings and the celebrated shrine at Tanjore are perhaps the only important instances in the Presidency in which the design culminates in the tower over the central shrine. The architectural superiority of this method of design over the later temples, of which that at MADURA may be taken as a type, is obvious.

About a mile to the west of the temple an embankment of great strength and sixteen miles long runs north and south. It is provided with several substantial sluices and in former times must have

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formed one of the largest reservoirs in India. This huge tank or lake, called Ponneri, was partly filled by a channel from the Coleroon, upward of 60 miles in length, which entered it at its southern end; and partly by a smaller channel from the VELLAR which entered it on the north. Traces of both, these still remain. The tank is now in ruins and has been useless for many years, and the bed is almost wholly overgrown with high and thick jungle, except in portions of the foreshore which have been assigned for cultivation. A scheme for the restoration of this gigantic work and for supplying it by a channel from the Upper Anicut across the Cauvery has been recently investigated and abandoned.

Traces of many ancient buildings still exist round about Gangaikondapuram, and their foundations are often quarried for bricks, some of which are fifteen inches long by eight wide and four deep. In a quarry now open have been found ashes, bricks and concrete with burnt iron nails imbedded in the mass, showing that the buildings they once formed must have been destroyed by fire. The destruction of the city and tank was probably wilful and the act of an invading army. Local names still indicate the disposition of the several parts of the city, such as Māligaimedu, the site of the royal residence; Edaikattu, the middle structure; Ulkottai, the hindmost structure; Yuddhapallam, battle-field; Ayudakalavan, arsenal; Pallivāḍai, the suburb occupied by the cultivators; Pakalmedu, vegetable garden; Meykāvalteru, the street occupied by *kāvalgārs* (watchmen); Chunnāmbukuli, lime kilns; Tottikulam, a pond where cattle were watered; Kalanikulam, a pond in which rice washings were allowed to stagnate to be drunk by the cattle; and Vannānkuli, the washerman's pond.

Pachaimalais.—The Pachaimalais or green hills are situated between $11^{\circ} 9'$ and $11^{\circ} 29'$ N. and $78^{\circ} 31'$ and $78^{\circ} 51'$ E., due north of TRICHINOPOLY town on the borders of the Trichinopoly and Salem Districts of the Madras Presidency. Their total area is 177 square miles, of which 105 are in the Musiri and Perambalūr taluks of the former and the rest in Atūr taluk of the latter. They attain a height of 2,500 feet above the level of the sea, and their greatest length from north to south is about 20 miles. In shape the range has a slight resemblance to an hour glass, being nearly cut in two by ravines of great size and depth opening to the north-east and south-west. Of the two parts into which it is thus divided the north-eastern is the larger and has a generally higher level than the south-eastern. A striking characteristic of the range is the great steepness of the western slopes as compared with those on the east, which latter are rarely precipitous and are broken by several long spurs which project far into the low country. The climate of the Pachaimalais is notoriously malarious.

The reserved forests on the hills cover an area of 80 square miles and consist largely of *usilai* (*Albizzia amara*), *vengai* (*Pterocarpus Marsupium*), teak, blackwood (*Dalbergia latifolia*), sandalwood and bamboos. The minor products of the hills are myrabolans (*Terminalia chebula*), *vembādampattai* (*Ventilago Madraspatana*), a bark from which a red dye is extracted, the fruit of the hill gooseberry (*Rhodomyrtus tomentosa*) and honey. The only large game on the range are a few leopards and bears.

The inhabited portion is entirely in the Musiri tāluk. This comprises three villages, Vannādu, Tembaranādu, and Kombai, containing in the aggregate 68 hamlets and 6,529 inhabitants. The people call themselves Kānchi Vellālas and say they migrated to these hills from CONJEEVERAM (compare the account of the Malaiyālis on the SHEVAROY HILLS) at the time of a severe famine. The crops they cultivate do not differ materially from those grown on the plains. There is no wet cultivation, but an unirrigated variety of paddy is raised. The jack tree (*Artocarpus integrifolius*) is also extensively grown.

The cultivated land is divided into two classes; *ulavakādu*, land capable of being ploughed, and *punalkādu*, or land which cannot be ploughed and the cultivation of which is carried on by grain being dibbled in among trees and rocks wherever a few feet of soil is to be found. These two kinds of land are assessed at annas 8 and annas 4 respectively per acre. The cadastral survey of the hills is in progress. A forest road runs from the road from TURAIYUR to ATUR to the foot of the hills and thence a bridle-path leads to a forest rest-house on the plateau, the total length of both being eight miles.

Samayapuram.—A village in the tāluk and District of Trichinopoly, Madras Presidency, on the high road to Madras about eight miles north of TRICHINOPOLY town in 10° 56' N. and 78° 45' E. Population (1901) 1,213. Adjoining it on the south is the village of Kannanūr (population 2,026) and the ground covered by the two is of much historical interest and is called Samayapuram (Samiavarām) in Orme's history and Kannanūr in ancient stone inscriptions.

In 1752, when the French army under Law had retreated from the south of the CAUVERY to the island of SRIRANGAM, Major Lawrence, at Clive's suggestion, determined to divide his army into two divisions and to send one of them to the north of Trichinopoly with the view of getting possession of the enemy's posts in that part of the country and intercepting any re-inforcements which might be sent from PONDICHERY. This expedition was entrusted to Clive, who on the 7th April took possession of the village of Samayapuram. There are two temples in this village and in Kannanūr about a quarter of a mile apart, namely the Bhojeswara shrine on the west, and the Māriamman temple on the east, of the old high road

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leading to Madras, which then ran a few hundred yards to the east of the present road. The Europeans and sepoys were placed inside these buildings while the Marāthās and the Tanjore troops were encamped outside them. A detachment sent by Dupleix from Pondicherry under M. D'Auteuil reached Uttattūr on the 14th April, and, in order to intercept this body while on the march, Clive advanced from Samayapuram towards Uttattūr, on which M. D'Auteuil, who had already started for Trichinopoly, retraced his steps to the latter village. Clive then fell back on his former position. Law, who was commanding at Srirangam, heard of Clive's departure but not of his return and determined to surprise and cut off whatever force might have been left behind by him. With this object he despatched a force of 80 Europeans (of whom 40 were English deserters) and 200 sepoys. In the skirmish which ensued, and which is graphically described by Orme, Clive had more than one narrow escape. The French force arrived near the English camp in Samayapuram about midnight and the English deserters persuaded the native sentries that they had been sent by Major Lawrence to reinforce Clive and with all their following were allowed to enter the camp. They reached unchallenged the smaller of the two temples. When challenged there, they answered by a volley and entered the building, putting every person they met to the sword. Clive, who had been sleeping in a neighbouring rest-house, thought the firing was that of his own men who had taken some false alarm and fetched 200 of the European troops from the other temple. On regaining the smaller shrine he found a large body of sepoys firing at random. Still mistaking them for his own troops he went alone among them, ordering the firing to cease, upbraiding some with their supposed panic and even striking others. One of the French sepoys recognised that he was English and attacked and wounded him in two places with his sword and then ran away to the temple. Clive, furious at this supposed insolence on the part of one of his own men, pursued him to the gate and there, to his great surprise, was accosted by six Frenchmen. With characteristic composure he told the Frenchmen that he had come to offer them terms and that if they did not accept them he would surround them with his whole army and give them no quarter. Three of the Frenchmen ran into the pagoda to carry the intelligence, while the other three surrendered and followed Clive towards the rest-house, whither he now hastened with the intention of attacking the sepoys there whom he knew now for the first time to be enemies; but they had already discovered the danger of their situation and marched off. Clive then stormed the temple where he had been challenged by the six Frenchmen but the English deserters fought desperately and killed an officer and fifteen men of Clive's force and the attack was accordingly ordered to cease till daybreak. At daybreak the officer commanding the French, seeing the danger of his situation, made a

sally at the head of his men; but he was received with a heavy fire which killed him and the twelve others who first came out of the gateway. The rest ran back into the temple. Clive then advanced into the porch of the gate to parley with the enemy and, weak with loss of blood and fatigue, stood with his back to the wall of the porch and leaned stooping forward on the shoulders of two sergeants. The officer of the English deserters conducted himself with great insolence, told Clive in abusive language that he would shoot him, raised his musket and fired. The ball missed Clive, but the two sergeants fell mortally wounded. The Frenchmen who had hitherto defended the temple with the English deserters, thought it necessary to disavow an outrage which would probably exclude them from any pretensions to quarter, and immediately surrendered.

It appears from an inscription in the Jambukeswaram temple on Srirangam island that the Bhojeswara temple in Samayapuram, already referred to, was founded by a Hoysala Ballāla king, and Kannanūr is itself identified as the site of Vikramapura, the Hoysala capital in the Chola kingdom in the 13th century. The name Bhojeswara is considered to be a corruption of the original Poysaleswara (or Hoysaleswara), which owes its origin to a confusion between the long forgotten Hoysala king and the better known king Bhoja of the Peramāras in Central India, who never had any connection with this country. In the Jambukeswaram inscription king Vira Someswara mentions "(the image of) the Lord Poysaleswara which we have set up in Kannanūr *alias* Vikramapuram"; and the south wall of the Kannanūr temple bears an inscription of the Hoysala king Vira Rāmanātha Deva (son of Someswara) in which the temple is called Poysaleswara "the Iswara [temple] of the Poysala [king]". There is also a copper plate edict of Vira Someswara in the Bangalore Museum which was issued on 1st March 1253 A.D., the day of an eclipse of the sun, "while [the king] was residing in the great capital named Vikramapura which had been built in order to amuse his mind in the Chola country, which he had conquered by the power of his arm".

Srirangam.—Town in Trichinopoly District, Madras Presidency, situated in 10° 52' N. and 78° 42' E, two miles north of TRICHINOPOLY and almost in the centre of the island of Srirangam formed by the bifurcation of the CAUVERY into the two branches known as the Cauvery and the COLEROON. At the western (upper) end of the island is the Upper Anicut and at the eastern end the 'Grand Anicut' described in the article on the Cauvery. The island is about nineteen miles in length, and in its broadest part about a mile and a half broad, the soil being alluvial and very fertile. It is, however, subject to inundations from the Cauvery and Coleroon rivers, especially at its lower (eastern) end. The trunk road to Madras runs northwards from Trichinopoly across

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the island and connects it with the land on either side by fine bridges over the two rivers. The island (see TRICHINOPOLY DISTRICT) played a considerable part in the wars of the 18th century.

Srirangam town was made a municipality in 1871, and comprises several villages of which Srirangam and Jambukeswaram are the most important. Its population, which has doubled in the last 30 years, is 23,039 (1901), of whom as many as 22,834 are Hindus, Musalmāns numbering only 42 and Christians 163. The average income and expenditure of the municipality in the ten years ending 1902-03 were about Rs. 28,000. The income in 1903-04 was Rs. 33,800 and the expenditure Rs. 35,100; most of the former was derived from the taxes on land and houses. It maintains a hospital which accommodates 24 in-patients and has a maternity ward with four beds. The buildings now in use were repaired and terraced by Rājā Sir Savalai Rāmaswāmi Mudaliyār in 1886 at a cost of Rs. 10,000, the erection previously in use having been damaged by fire in 1884. Preliminary surveys for a drainage scheme for the place are in progress.

The town is chiefly famous for its great temple dedicated to Vishnu. The temple and the town are indeed almost conterminous, the greater portion of the houses having been erected inside the walls of the former. The temple is the largest in southern India and consists of seven enclosures one within the other, the outermost wall of the seventh measuring 1,024 yards by 840 yards. In the centre of the innermost enclosure is the shrine of Ranganāthaswāmi, who is represented as reclining on the folds of the serpent Adisesha and screened by his hood. The dome over the shrine has been recently repaired and richly gilt. None but Hindus can enter the inner three enclosures. The fourth, in which is the thousand pillared *mantapam* or hall, measures 412 yards by 283 yards. This hall of a thousand columns measures 450 feet by 130 feet and contains some 940 pillars, being incomplete in parts. It is the Darbār Hall of the deity during the annual Vaikunta Ekādasi festival which takes place in December or January. A large *pandal* or covered enclosure is then erected in front of it and the processional image is brought to it from the inner shrine through the northern entrance of the second enclosure, called the Paramapadavāsāl or the gate of heaven, which is only opened on this one occasion in the year. In booths round the *pandal*, which is handsomely decorated, various figures of gods and mythical personages and other articles are exposed for sale. In front of the thousand pillared *mantapam* is a smaller hall, called Seshagiri Rao's *mantapam*, in which there are some fine carvings in stone.* As usual, the temple

* Drawings of these and other portions of this temple and of that at Jambukeswaram will be found in the *Journal of Indian Art and Industry*, Vol VIII (1899).

possesses many jewels, some of which are good specimens of goldsmith's work. The various pieces of armour which cover the idol from head to foot are perhaps the best, the others being of a type familiar to the visitor at south Indian temples. Several of the oldest were given by Vijayaranga Chokanātha Naik of MADURA. There is also a gold plate presented by His Majesty the present King-Emperor when he visited the place as Prince of Wales in 1875. European visitors, on giving sufficient notice, are generally allowed to see the jewels, or, at any rate, some of them, by the courtesy of the trustees, but the complicated precautions taken to secure them make it generally impossible to extricate them in less than two or three days.

Over the entrances to the fourth enclosure are three *gopurams* (towers), of which the eastern is the finest in the whole temple. It is known as the *vellai* or white *gopuram* and is 146½ feet in height. There is at present no gate or *gopuram* on the western side of this enclosure. Tradition states that one formerly existed, but that it was blocked up because the people living near there used to enter by that way and commit theft in the temple. The outer three enclosures are crowded with houses and bazars.

Mr. Fergusson points to this temple as the most conspicuous illustration of the way in which many south Indian temples have gradually grown up around a small central shrine. The various stages of circumvallation represent successive increases in the wealth and popularity of the shrine, and there is a corresponding increase in the size and ornamentation of the outer buildings as compared with those within. It may be added that the temple does not seem to have been completed in the manner intended by the last of its series of builders. The outer wall contains four unfinished *gopurams*. That on the southern side which is the first seen by visitors from Trichinopoly, is of large proportions and, if completed, would have risen to the height of 300 feet. This unfinished but gigantic structure is perhaps the most impressive object in the whole temple.

Several saints are reputed to have resided here and the images of some of them are set up in different parts of the enclosure. The Hindu reformer and philosopher Rāmānuja lived and died here about the middle of the eleventh century. The inscriptions on the walls go back to the first half of the tenth century, to the reign of the Chola king Madurai-konda Ko Parākesarivarman, *alias* Parāntaka I., but the greater portion of the temple can hardly have been constructed as early as this.

An inscription of Sundara Pāndya recites that he took Srirangam from a king who is called the moon of Karnāta, and plundered the capital of Kāthaka. A similar incident is recounted in the TIRUKKALIKKUNRAM and Jambukeswaram inscriptions. The Kāthaka king can hardly refer to a king of Cuttack, the most

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obvious explanation; and probably describes the noted chieftain Kopperunjinga, who had great power in the Carnatic at this time. The moon of Karnāta was the Hoysala king Someswara (literally the god of the moon), who, having conquered the Chola country, had built a city called Vikramapuram five miles to the north of Srirangam. The site of this city is the present SAMAYAPURAM. The Sundara Pāndya of the inscription has been identified by a copper plate grant of Someswara dated in 1253, with Jatāvarman Sundara Pāndya Deva who ascended the throne in 1250 or 1251. Other inscriptions relate to the Chola, Pāndya, Hoysala and Vijayanagar dynasties.

About half a mile to the east of the Vishnu pagoda described above, is another remarkable temple dedicated to Siva and known by the name of Jambukeswaram. It is a compound of the words Jambu, the Sanskrit name of the tree known in Tamil as *nāval* (*Eugeni jambolana*), and Iswara, a name of Siva. The image of the deity is placed under a *jambu* tree, which is much venerated and is said to be several hundred years old. The image is also known as one of the five elemental lingams, the element in this case being water, which surrounds the lingam on all sides. Mr. Fergusson considers that this building far surpasses the larger temple (Srirangam) in beauty and as an architectural object, and thinks that, being all of one design, it was probably begun and completed at one time. There are five enclosures in the building. In the third, is a coconut grove, in which is a small tank and temple whither the image from the great Vishnu pagoda was formerly brought for one day in the year. This practice has been given up owing to quarrels between Saivites and Vaishnavites. Traces of a wall, which was in consequence built to mark the boundary between Srirangam and Jambukeswaram, are still visible. In the fourth enclosure, which measures 812 yards by 497, is a large hall with 796 pillars and to the right of it a little tank with a gallery round it in which are 142 columns. The tank is fed by a perpetual spring. The fifth or outer enclosure contains four streets of houses. Inscriptions seem to show that the temple was in existence about A.D. 1000.

Trichinopoly Town (*Tiruchchināppalli*).—Head-quarters of the District and tāluk of the same name in the Madras Presidency, situated on the right bank of the CAUVERY river in 10° 49' N. and 78° 42' E., distant from Madras 195 miles by road and 250 miles by the South Indian Railway. It is the third most populous town in the Presidency. It once held the second place, but at the census of 1901 MADURA outstripped it, although in the decade ending with that year its inhabitants increased by 16 per cent. Out of the total population of 104,721, 76,927 are Hindus, 14,512 Christians and 13,259 Musalmāns. In 1891 its inhabitants numbered 90,609; in 1881, 84,449; and in 1871, 76,530. The fact that it is an important railway junction and head-quarters has had much to do with its rapid growth

Trichinopoly is a very ancient town. Popular legend carries its history back beyond the days of the Rāmāyana. Later, the capital of the Chola kingdom was once at Uraiyūr, a suburb of the town which is identified with the 'Οφθούρα mentioned by the Greek geographer Ptolemy (about A.D. 130). The local purāna or history contains a story of the destruction of Uraiyūr by a shower of sand. There was a flower garden, says the tale, on the Trichinopoly Rock in which the sage Sāramuni raised *sevvandi* (chrysanthemum) flowers for the worship of Siva. A gardener stole some of the flowers and presented them to the Chola king Parāntaka daily. When the theft was discovered and the gardener was arraigned before the king, the latter excused him. Siva was very wroth thereat and turned his face towards Uraiyūr and rained sand on it. The king and queen fled and as they ran she fell in the river but he was buried in the storm of sand. The queen was washed ashore and protected by a Brāhman. She gave birth to a son who was afterwards called to the throne, and was identified as the rightful heir by an elephant and was consequently called Karikāla. It has been surmised that this account has reference to a Pāndyan invasion. The king Parāntaka is probably Parāntaka II., whose son was Aditya II. *alias* Karikāla and who reigned in the 10th century.

Inscriptions have been found in the Srīrangam and Jambukeswaram temples which show that as late as the 15th and 16th centuries descendants of the Chola dynasty reigned at Uraiyūr as vassals of the kings of Vijayanagar. In the 13th century, the Hoysala dynasty appears to have held sway here for a time, with its provincial capital at SAMAYAPURAM. The Musalmāns succeeded in the 14th century, and then the Vijayanagar dynasty. During the rule of the Naiks of MADURA, Trichinopoly was an important place and was for some time their capital. The founder of the dynasty, Viswanātha Naik, is supposed to have fortified the town and constructed the Teppakulam reservoir. One of his successors, Chokanātha, erected the building known as the Nawāb's palace, obtaining the necessary materials by demolishing portions of the famous Tirumala Naik's palace at Madura. The building is also known as Mangammāl's palace after the Naik queen of that name.

In the wars of the Carnatic, Trichinopoly (see TRICHINOPOLY DISTRICT) was frequently the scene of hostilities between the English and the French. After the country was ceded to the Company it continued for many years to be an important military station. Troops were first stationed within the fort, next at Uraiyūr, and subsequently in the present cantonment. The cantonment was formerly garrisoned by European and Native regiments, but in 1878, when the Afghān war broke out, the whole of the European contingent was removed and the garrison subsequently

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reduced to two regiments of native infantry. At present it consists of one regiment and a part of another. The fort is rectangular, measuring about a mile by half a mile, and was originally surrounded by ramparts and a ditch, but the walls have now been levelled and the ditch filled in. The streets in this part of the town are narrow but fairly regularly laid out.

Trichinopoly was constituted a municipality in 1866. The municipal limits include the cantonment and the fort as well as several other revenue villages. The municipal council consists of 24 members of whom eight are elected and 15 nominated by Government, one of the latter being a military officer to represent the cantonment. The Divisional officer is *ex-officio* a councillor. The average income is about Rs. 1,50,000, and latterly the expenditure has exceeded the receipts in consequence of the outlay incurred from borrowed money on the water-supply scheme. In 1903-04 the income, which was chiefly derived from the taxes on land and houses, was Rs. 1,91,600 and the expenditure was approximately equal to it. The water-works cost about eight lakhs of rupees and loans were raised to the amount of Rs. 3,89,500. The supply is derived from wells and filter beds laid in the bed of the CAUVERY nearly a mile above the town, and the water is pumped up by steam and conducted into the town by pipes. The introduction of the supply has had a marked effect on the public health and has practically exterminated cholera, which was formerly the scourge of the place. The works are, however, liable to severe damage when the Cauvery is in flood, sometimes necessitating a return to the old tainted sources of supply. The problem of rendering them strong enough to resist floods is still under consideration; meanwhile the necessity for continued repairs is a severe drain on municipal revenues.

The most interesting object in the town is the famous Rock. It lies within the fort and rises sheer from the plain to a height of 273 feet above the level of the streets at its foot. The ascent is by a covered stone staircase, the entrance to which is on the south side. On each side of the gateway are stone figures of elephants, and the passage itself is lined with pillars with carved capitals. At the head of the first flight of steps, a street runs completely round the rock, by the side of which houses have been built. It is used for religious processions, and is connected with the street round the foot of the rock on the eastern side. From the street opens a hall, on the left of which is a small shrine to Ganesa. A second series of steps leads out of this hall through an exit ornamented with statues of *dwārapālakas* (gate-keepers) on each side. On ascending these, a second landing is reached, on each side of which is a large hundred pillared *mantapam* or hall, that on the left being used twice a year for the reception of the idol belonging to the main temple. More steps lead to a third landing, to the left of which is

a small room for the temple records and in front of which is a shrine to Ganesa. The ascent now turns sharply to the left and then to the right terminating on a fourth landing, giving access to the main temple. None but caste Hindus may enter this, but a view of a portion of the antechamber can be obtained from the landing. The steps now emerge into the open air, passing on the left a chamber hewn out of the rock and covered with Sanskrit inscriptions. This chamber was used as a magazine by the British during the siege, and has recently been opened out. The carvings appear to be of Buddhist origin and are probably not later than the 5th or 6th century A.D. Two short flights lead to a building to which the temple deity is taken once a year and to a platform on the shoulder of the rock whence the top is reached by a final series of steps which are cut in the face of the rock. On the top is a small temple dedicated to Ganesa, whose shrine is surrounded by a gallery from which a fine view of the fort, the town, the Cauvery, SRIRANGAM and the adjacent country is obtained. At a corner of this gallery, overlooking the great temple, is a narrow door leading on to a small platform from which a good view is obtained of the kalasam or golden covering over the central shrine of the temple. Beneath can be seen, sculptured in relief on the surface of the rock, two foot-prints which Hindus believe to have been made by Vibhishana, the brother of Ravana and the ally of Rama. The Musalmans however claim the foot-prints as those of the saint Nādir Shāh Auliya, who took up his residence on the rock but was ejected by the god of the place.

At the foot of the rock, on the north-eastern side, is a row of low buildings with semi-circular arched roofs, said to be old bomb-proof barracks, and further to the east a portion of the former outworks of the fort, the line of the walls being indicated by the open space surrounding the town. A representation of the rock is sculptured on a tablet to Major Lawrence in Westminster Abbey. The deity in the main temple on the rock is called Mātrubūtheswara in Sanskrit and Tāyumānavar in Tamil from his having assumed the guise of a mother to attend on a helpless woman in child-bed, her mother having been detained by floods on the other side of the Cauvery. When the floods subsided, the mother came across, and the woman and her husband were much puzzled as to who her double could have been. Siva then appeared in his real form and blessed them. This curious legend, and also that of Sāramuni, are painted panoramically on an inner wall of the temple.

Near the foot of the rock is the Teppakulam, a large masonry tank or reservoir with a small but graceful mantapam in the centre. Overlooking it at the south-west corner is the main guard gate, a substantial piece of masonry, from the top of which is the best view of the rock as a whole. Distinguished visitors to the town are

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entertained by being taken to this point to see the great rock and the tank all outlined with thousands of lamps, an impressive scene. The place was similarly illuminated at the two jubilees of Her Majesty the late Queen-Empress and on Coronation Day.

The Nawāb's palace, a part of which is now used as a Town Hall and part as public offices, is situated close to the rock. The portion used as the Town Hall was formerly the audience hall and is a fine building of plain and massive architecture, surmounted by an octagonal dome, and surrounded with colonnades. These last are perhaps however rather too squat to make an effective base for the dome. In front of the Nawāb's palace is the Coronation garden, with the Wenlock Fountain within.

Overlooking the Teppakulam at its south-east corner is a house which was once the residence of Clive, but is now occupied by St. Joseph's College. To the north-west of the rock is Christ Church, which was founded by the famous missionary Swartz. His house is also close by. Near the Fort railway-station is what is known as Chanda Sāhib's tomb. It is in the Nādir Shāh mosque, wherein are buried the remains of Nādir Shāh Auliya, a saint who is reputed to have come here from Constantinople, and of one of his disciples, a lady. The railings round the tomb are of pierced metal work of a curious design. The building appears to have been constructed from the materials of Hindu temples, the head of a *lingam* having been converted into a lamp post. The entrance hall to the mosque is clearly an old Hindu *mantapam* left almost in its original state. Chanda Sāhib built the dome over the edifice and his remains are interred close to the building, while the remains of his rival Muhammad Ali and of the members of his family are in the verandah and in a room attached thereto. There are Persian inscriptions on the walls of this building and of the mosque.

Besides the water-supply, the municipal council has built for the town a market in the fort and a hospital to the south of it. In front of the market are a clock tower, the Diamond Jubilee Park and the arch erected in commemoration of the visit of the present King-Emperor when Prince of Wales. The hospital has an endowment of Rs. 12,000 raised by public subscription in 1863 and also receives an annual grant of Rs. 4,500 from the District board. It has a maternity ward, a ward for caste patients and a dispensing room for women and children under the charge of a lady apothecary trained by the Countess of Dufferin's Fund Committee.

Trichinopoly is one of the great educational centres of the south of the Presidency. It contains two first-grade colleges maintained respectively by the Roman Catholic Jesuit Mission and by the Protestant Society for the Propagation of the Gospel. The former, known as St. Joseph's College, was originally established at NEGAPATAM in 1844 and was removed to Trichinopoly in 1883. The present building was opened in 1886. The college

Cathedral, a very fine edifice, has been recently completed. Attached to the institution is a large boarding-house for native Catholic students as well as lodgings for Brāhman and caste Hindus and hostels within the college compound. The S. P. G. College, which is a development of various schools founded by Swartz, was raised to a first-grade college in 1883. There is a hostel for Hindu students upon the college premises and hard by is another bearing the name of Bishop Caldwell and intended mainly for Christian students from Tinnevely. The proselytizing activity of the Jesuit mission led to the establishment by the Hindu community in 1886 of the National high school in the interests of the Hindu community.

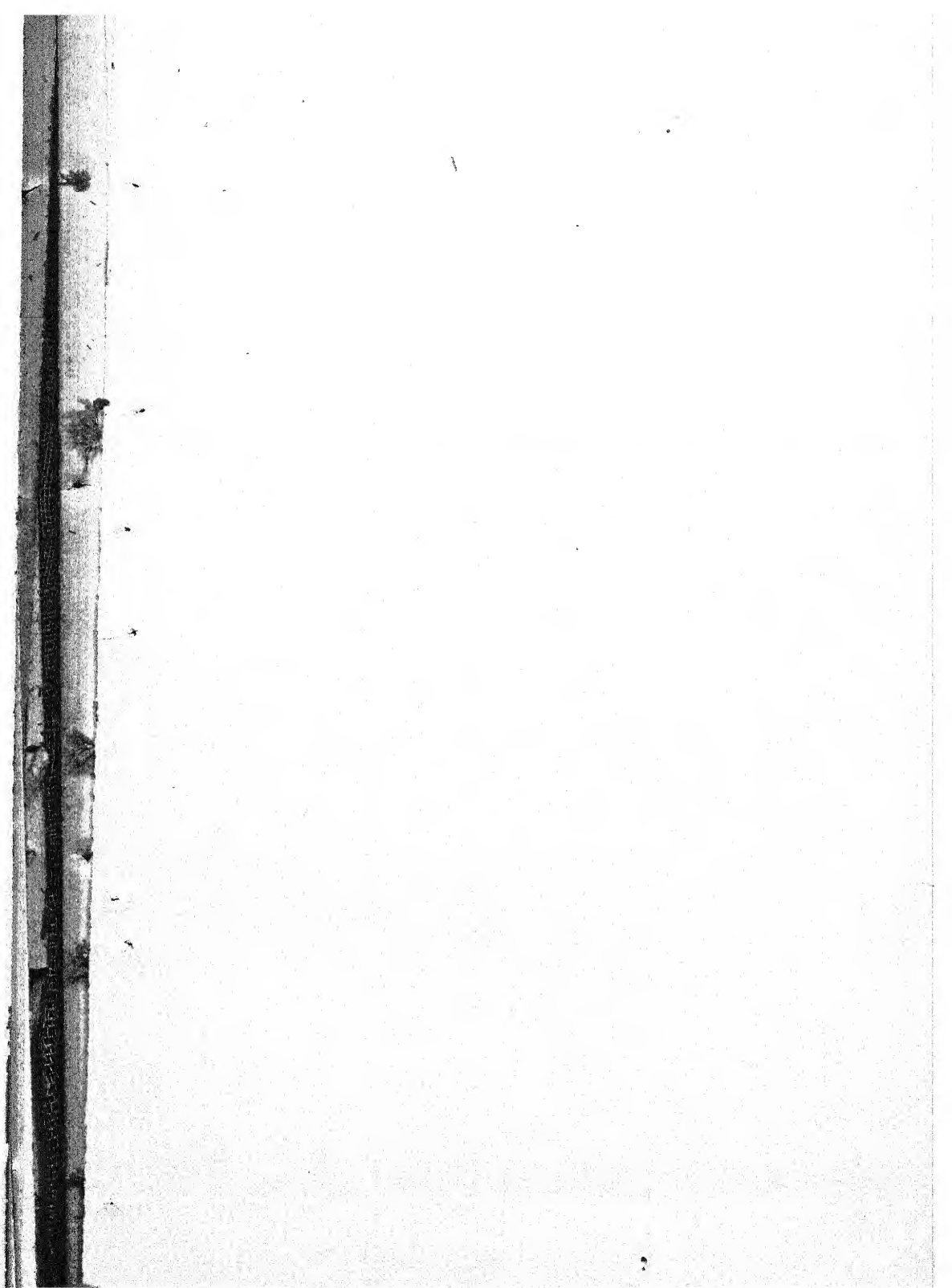
Turaiyūr.—The largest town in the Musiri tāluk, Trichinopoly District, of the Madras Presidency, situated in $11^{\circ} 10' N.$ and $78^{\circ} 36' E.$ It has a population of 12,870 (1901) and is a rapidly growing place, containing the head-quarters of a deputy tahsildār and sub-magistrate, and being the chief town of the zamīndāri of the same name. It is picturesquely situated near the PACHAIMALAI HILLS, and not far from the KOLLAIMALAIS in Salem. The most noticeable objects in the town are the large reservoir with stone steps and parapet walls, on which the floating festival is held, the god being taken round it on a raft, and the irrigation reservoir close by, in the centre of which is a curious and picturesque building three stories high in which the zamīndār used formerly to spend short periods when the reservoir was full of water. The building is now out of repair and rapidly falling into ruins, which is unfortunate, as it is a picturesque example in a semi-Moorish style of architecture.

The Turaiyūr zamīndāri has had a very chequered career which is typical of the fortunes of many similar small properties in south India. During the siege of Trichinopoly in 1752, a detachment of the Mysore army assisted by some French troops, overran the estate, deposed the reigning chieftain and put one of his cousins in his place. In 1755, this new chief having neglected to pay his tribute, a detachment of French troops and sepoys which was sent from PONDICHERRY, took the town, deposed him and reinstated his predecessor. In 1756, however, the zamīndār again failed to pay his tribute and was accordingly deposed by the French, his immediate predecessor taking his place. In 1758 Captain Calliaud sent a detachment under Captain Smith to restore the chief whom the French had last expelled, as he was befriended by the chiefs of Ariyalūr and Udaiyārpālaiyam who had always been bitter opponents of the French. Turaiyūr was captured after some spirited skirmishing in the woods which then surrounded the village. The expelled chief was again reinstated and five companies of sepoys were left to protect him. The chief who had been ejected by Captain Smith escaped to Mysore. When, however, at the end of 1758, some of the troops had to be withdrawn from Turaiyūr,

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he took advantage of the opportunity and captured the town. He then submitted to the Nawāb, who confirmed him in the possession of the estate. In 1773, the Turaiyūr chief quarrelled with his son, who, fearing that his father had a design on his life, left the country and proceeded to Madras to lay his case before the Nawāb. The Nawāb took the opportunity of raising the tribute and in the competition between the father and the son it was enhanced from $1\frac{1}{2}$ to $2\frac{3}{4}$ lakhs in twenty years. In 1795, however, the father and the son became reconciled, and, seeing that they could not possibly meet the Nawāb's demands, left the country and took refuge in Tanjore, where the former died. In 1796 the son collected a number of men and laid the estate waste. Eventually an agreement was come to between him and the Nawāb, by which he retired to Tanjore on a monthly allowance of Rs. 1,000 with power to levy annually an assessment on the inhabitants of Turaiyūr not exceeding 25 per cent. of the amount of revenue collected by the State. This arrangement continued in force till the assignment of the Carnatic to the Company. As a preliminary step to the grant of a zamīndāri *sanad* (title-deed) to the chief, the estate was placed under the management of the Collector with a view to ascertain its income and the chief was allowed 10 per cent. of its net revenue. In 1816 it was decided that he should not be restored to the possession of the entire estate but should receive only the village in which he lived together with a number of other surrounding villages of an annual value equal to 10 per cent. of the gross collections. For this he paid the nominal peshkash (rent) of Rs. 700. A *sanad* was issued to him in 1817. The family is of the Reddi caste and of Telugu extraction. The zamīndāri has recently been declared impartible.

Udaiyārpālaiyam Town.—Town situated in Trichinopoly District in the tāluk of the same name, Madras Presidency, in $11^{\circ} 11'$ N. and $79^{\circ} 18'$ E. Population in 1901, 7,553 against 7,739 in 1891 and 5,703 in 1881. The town is the place of residence of the zamīndār of the same name and the drop in the population in 1901 was due to his being absent, with a considerable following, at the time of the census. The zamīndār is of the Vanniya caste and his ancestors held the estate as *arasu-kāvalgārs* or heads of police. Like so many other similar chiefs, they experienced many ups and downs of fortune during the wars of the 18th century and the rule of the Nawāb of the Carnatic. The zamīndār was in receipt of a monthly allowance of Rs. 1,000 and the estate was under the management of an agent of the Nawāb at the time when the Trichinopoly District was handed over to the East India Company in 1801. In 1817 the British Government restored to him a portion of the estate the annual value of which was equal to 10 per cent. of the gross revenue, required him to pay a nominal peshkash (rent) of Rs. 640 and gave him a title-deed. The zamīndāri has recently been declared impartible.



MADURA DISTRICT.

Madura District (*Madurai*).—A District situated in the southern portion of the east coast of the Madras Presidency between 9° 6' and 10° 49' N. and 77° 11' and 79° 19' E, with an area of 8,701 square miles. It consists of a section of the plain stretching from the eastern slope of the mountain range of the WESTERN GHATS to the sea, and includes the drainage basin of the VAIGAI river. Part of its south-western and western border abuts on the Western Ghāts, which are here known as the Travancore hills and divide the District from the Native State of Travancore, and the north-western boundary runs over the highland plateau which separates two other sections of the same range, the ANAIMALAIS and the PALNI HILLS, from one another. The Palnis lie wholly within the limits of the District and are its most notable mountains. On the north, Madura is bounded by the Districts of Coimbatore and Trichinopoly and the Native State of Pudukkottai; on the north-east by Tanjore; on the east and south-east by the waters of PALK STRAIT and the GULF OF MANAAR; and on the south and south-west by Tinnevely District.

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Boundaries,
configuration
and hill and
river
systems.

Its general aspect is that of a level plain sloping gradually to the sea on the south-east and bisected by the channel of the Vaigai river. To the west this plain is broken by the Palni Hills and other smaller spurs and outliers of the Western Ghāts and by isolated hills and masses of rock scattered throughout it. The Palnis project across this part of it in an east-north-easterly direction for a distance of 54 miles and are about fifteen miles wide on an average. To the south, and almost parallel with these, the Varushanād hills and the Andipatti range also run out from the Western Ghāts in a north-easterly direction. They extend for a distance of some 40 miles, and between them and the Palnis lies the upper portion of the valley of the Vaigai, known as the Kambam valley. This is kept well wooded and green by the perennial streams which flow down into it from the slopes of the adjoining hills, and, except in the feverish season, is one of the pleasantest parts of the District. Further east, and altogether separate from the ranges already described, is a confused series of smaller lines of hills known respectively as the Sirumalais, the Karandamalais, the Nattam and the Alagar hills. The highest peak among these attains an elevation of nearly 4,400 feet. On the Sirumalais fruit is largely grown and there are several coffee estates, but the range is almost uninhabited on account of the malignant fever which lurks in its slopes. Among isolated hills may be mentioned the ancient rock fortress of DINDIGUL, the Anaimalai

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(elephant hill), the Pasumalai (cow hill) and the Skandamalai, sacred to the god Subrahmanya. The last three are in the neighbourhood of MADURA town, the capital of the District.

The river system of the District is of a simple character. The principal stream is the Vaigai already mentioned, which has its origin in the Varushanād hills. Near the village of Sholavandān this bends to the south-east and thence flows right across the centre of the District and empties itself into the sea at Attankarai, east of RAMNAD. Next in importance are the Gundār and Varshalei. The former rises in the Varushanād and Andipatti hills and flows in a direction nearly parallel to the Vaigai. At KAMUDI it is crossed by a massive earthen dam, and a channel is taken off which irrigates part of Mudukulattūr tahsil. The Varshalei drains the eastern slope of the Nattam hills, flows past TIRUPPATTUR, and enters the sea by several mouths between Uriyūr and Tondi. The northern slopes of the Palnis are drained by a lesser system of rivers which flow northwards in almost parallel courses. The principal of these are the Amarāvati, the Shanmukhanadi, the Nangūnji and the Kodavanār. All of them are drainage channels rather than perennial rivers. In the rainy seasons they come down in headlong torrents, but for most of the year they dwindle into trickling streams.

Botany.

The botany of the central portion of the District presents no points of special interest. Along the coast occur areas covered with the red sand wastes (*teris*), which are so extensive in Tinnevely, and with brackish swamps. These exhibit the flora characteristic of such tracts. The most interesting region botanically is the Palni range. Dr. Wight visited this in 1836 and recorded his observations in the *Madras Journal of Literature and Science* the next year. He says that in the course of about fifteen days he collected little short of 1,500 species of plants, and he thought that the flora of the hills would be found on examination to include almost four-fifths of the whole flora of the Presidency and to present a vast number of species peculiar to the locality. In the same journal for 1858, Colonel Beddome published a list of more than 700 species of plants (exclusive of Compositæ, Graminæ and Cryptogams which were not determined) which he found on this range. It is thus evident that the locality is well worthy of detailed examination by botanists.

Geology.

The rocks of Madura District consist chiefly of foliated biotite gneiss, probably in reality a gneissose granite, in which are masses of granular quartz rock, also probably of igneous origin. At certain localities, such as Pandalugudi and Tirumāl, bands of coarsely crystalline limestone occur in the gneiss. Charnockite is found in the western part of the District, the Palni Hills being entirely composed of that rock. In the Varushanād hills are hornblende schists and granulites, penetrated by veins of mica-bearing pegmatite. Sub-recent calcine grits of marine origin form a fringe along the coast from CAPE COMORIN to the channel between the mainland and the island

of PAMBAN. Laterite covers a considerable part of the District. Further particulars will be found in Mr. Bruce Foote's account in the *Memoirs of the Geological Survey of India*, Vol. XX.

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The hills to the west contain all the larger game usually found in such localities, namely, tiger, leopard, bear, elephant, bison (gaur), the Nilgiri ibex, sambhar and spotted deer. The opening up of neighbouring areas to the planting of coffee and the ravages of wild dogs and native shikāris are, however, reducing the game. On the plain country antelope (black buck) are common, especially towards the sea.

Fauna.

The climate is hot, dry and variable. There is no real cold weather on the plains, but the air is pleasantly cool from November to February. The mean annual temperature at Madura, the headquarters, is 84° as compared with 83° at Madras. It is considerably less on the island of Pāmban, at places like Dindigul and in the Kambam valley. The climate of the upper Palnis is probably one of the finest in India and resembles that of the Nilgiris. The District is not regarded by the natives as healthy, on account of the prevalence within it of malarial fever.

Climate and
temperature.

The annual rainfall of the District as a whole, omitting the Palnis, usually varies from 26 to 36 inches and averages just above 30 inches. Of this, more than half is registered during the north-east monsoon in the last three months of the year, about one-fourth during the four months of the south-west rains from June to September, and only one-seventh during April and May. The distribution, however, varies very considerably in different parts of the District, especially during the south-west and north-east monsoons. During the first three months of the year, for example, the best rain is to be expected along the sea-coast and among the hills that enclose the valleys in the west. The early showers of April and May are usually fairly abundant in the latter tract, while they decrease in amount eastwards and towards Tinnevely. During the south-west monsoon the only portion of the District which usually receives a fair supply is the centre. During the north-east monsoon the rainfall on the coast in the RAMNAD ESTATE is very heavy, and over the rest of the District is considerable. Speaking generally, the supply is much below the general average only in the part adjoining Tinnevely, while in the central and eastern parts of the District it is above the normal for such tracts.

Rainfall.

The famines from which the District has suffered are referred to below. Other natural calamities have been few. The worst of them were a cyclone in 1709, which did great damage, and the floods which followed the 1877 famine in the Rāmnād estate. In December 1877 the Gundār river rose to a great height and flooded parts of Tiruchuli village, swept away a thousand yards of the embankment near Kamudi, lower down, and then made for the sea, breaching nearly every tank in the south-west of the zamīndāri and covering the whole country with one broad sheet of water.

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DISTRICT.
History.

Perhaps no District in all the Presidency can boast of a more continuous ancient history than Madura. Together with Tinnevely and portions of Travancore State and Trichinopoly it formed the dominion of the PANDYAS, who are said to have taken their name from Pāndu, the father of the Pāndava brothers, the heroes of the Mahābhārata war, and whose kingdom existed three hundred years before the beginning of the Christian era. About the tenth century A.D., as is attested by numerous inscriptions and coins, the country passed under the CHOLAS, but it reverted to the Pāndyas some three hundred years later. In 1310, like the rest of south India, it fell to Malik Kāfūr, the general of Alā-ud-dīn of Delhi, but shortly afterwards, in 1372, the Muhammadans were driven out by the kings of Vijayanagar, who had just begun to establish themselves in power. Thereafter, for nearly 200 years, the history of the country is fragmentary and confused until, in the middle of the 16th century, the famous Naik dynasty of Madura came into prominence and ruled for 200 years. Viswanātha Naik, the founder of this line, was apparently the son of an officer of the Vijayanagar kings. He is said to have fortified Madura, bought Trichinopoly from the king of Tanjore and quelled a formidable rebellion in Tinnevely. He kept the local chieftains contented and the country quiet by founding in Madura and Tinnevely what was afterwards known as the poligār system, under which the direct government of his possessions was entrusted to local chieftains, called poligārs, whose powers were almost absolute in their own districts so long as they paid their suzerain a certain tribute and provided a stated military force for service when called upon. These poligārs figured largely in subsequent history, and some of their descendants are still zamīndārs of their original grants.

But the greatest of the Naik dynasty was the famous Tirumala, the remains of whose buildings, especially his palace, the most splendid of its kind in southern India, attest to the magnificence of his tastes. Besides the present District of Madura, his territories comprised Tinnevely, Trichinopoly (including Pudukkottai State), Salem, Coimbatore and a portion of the State of Travancore. His gross revenue is said to have exceeded a million sterling. He had a leaning towards Christianity and during his reign Robert de Nobili, the famous Jesuit missionary, with his direct countenance and assistance, founded an important centre in Madura and made many converts.

On Tirumala's death in 1659 the kingdom began to break up. His successors were weak rulers; Muhammadan intrigues and invasions commenced; Sivajī, the founder of the Marāṭhā power in India, began his raid to the south; and Chikka Deva Rājā, king of the rising dynasty of Mysore, invaded Madura and soon after invested Trichinopoly. The one redeeming feature of this period of confusion and anarchy was the regency of queen Mangammāl, the

most remarkable personage, next to Tirumala, in all Madura history. The roads and avenues which she made and the choultries and temples which she built keep her name in grateful remembrance to this day.

Meanwhile the Nawābs of ARCOT had become powerful enough to attack the south, and Chanda Sāhib, the son-in-law and chief minister of the Nawāb, Dost Ali, obtained Trichinopoly by cunning and Madura by force. The Naik ruler of the time thereupon called in the aid of the Marāthās of Sātāra in Bombay and in 1739 they marched south, defeated and killed Dost Ali at the pass of DAMALCHERUVU between North Arcot and Cuddapah, forced an enormous indemnity from his son, captured and carried off Chanda Sāhib to Sātāra, overran Madura and Trichinopoly and put Marāthā governors in charge of both of them. This was the last scene in the history of Madura kingdom. Henceforth it was split up into a number of small principalities and baronies which had no connected existence.

In 1743 the Sūbahdār of the Deccan drove out the Marāthās and the country again came nominally under the rule of the Nawābs of Arcot. Twelve years later, the English first appeared upon the scene. Major Heron marched south to force Madura and Tinnevely to acknowledge the Nawāb, Muhammad Ali, the Company's chief motive in sending him being the expectation that the tribute the Nawāb would thus obtain would help him to pay the money he owed for assistance in the Carnatic wars. Little resistance was met with, and Madura and Tinnevely Districts were taken and were rented for 15 lakhs of rupees to Mahfūz Khān, the Nawāb's brother. The disorderly behaviour of the poligārs and the Kallans (the Colliers of Orme) prevented him, however, from getting in his dues, and the Company therefore sent Muhammad Yūsuf, its commandant of sepoys, to assist him. The latter restored order to some extent, but in his turn rebelled and was accordingly attacked by the Company's troops and taken and hanged in 1764. Anarchy and confusion once more followed, until in 1783 Col. Fullarton marched into the country with a considerable force and finally quieted it. In 1790 the first English Collector of Dindigul was appointed, and in 1801 the rest of Madura was ceded to the British in accordance with the treaty of that year with the Nawāb of Arcot.

The sub-division of Dindigul, which had for long been part of the possessions of the kingdom of Mysore, had been previously (in 1790) acquired by conquest from Tipū Sultān. The history of the zamīndāris of RAMNAD and SIVAGANGA, of which a sketch is given in the article on the former, also differs somewhat from that of the District proper. From the beginning of the nineteenth century the political history of Madura as it now stands merges into the story of the administration of its revenue referred to below.

On the Palnis are found a large number of prehistoric dolmens or burial cairns. Evidence of a reliable nature shows that Greek and Roman soldiers served under the Pāndya kings, and, from the fact

Archæology.

**MADURA
DISTRICT.**

that Roman coins have been found in large numbers in the bed of the Vaigai, it is inferred that a colony of Roman merchants may have settled on its banks. A large number of coins with Buddhist symbols and devices also attest the prevalence of Buddhism in the Pāndya country. The famous Siva temple of Madura, the celebrated palace of Tirumala Naik at the same town and the great temple at RAMESWARAM are the chief objects of archaeological interest. These are referred to again in the separate articles on those places.

The people.

The towns in the District number 21 and its villages 4,113. Its population in 1871 was 2,266,615; in 1881, 2,168,680; in 1891, 2,608,404; and in 1901, 2,831,280. The decline in 1881 was due to the great famine of 1876-78, when the whole District, except the Melūr and Periyakulam tāluks, suffered severely. It is divided into the seven Government tāluks of Kodaikānal, Palni, Dindigul, Periyakulam, Madura, Melūr and Tirumangalam, the head-quarters of which are at the places from which they are respectively named, and the two great zamīndāris of Rāmnād and Sivaganga. Statistical particulars of these areas, according to the census of 1901, are appended :—

Tāluk or zamīndāri tahsil.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of varia- tion in population between 1891 and 1901.	Number of persons a bl to read and write.
		Towns.	Villages.				
Dindigul ...	1,122	1	209	430,524	384	+ 10·1	23,330
Palni ...	* 599	1	117	214,972	* 392	+ 10·2	12,689
Kodaikānal ...	...	1	15	19,677	...	+ 7·1	1,612
Periyakulam ...	1,520	3	83	320,098	211	+ 21·6	20,245
Melūr ...	485	1	98	154,381	318	+ 3·9	8,853
Rāmnād ...	† 2,104	3	143	112,851	† 344	+ 4·9	10,320
Tiruvādānai ...	...	1	809	155,346	...	+ 2·6	10,517
Paramagudi ...	...	1	375	142,665	...	+ 8·8	9,975
Tiruchuli ...	...	2	354	166,769	...	+ 1·5	14,671
Mudukulattūr ...	...	2	399	146,255	...	+ 8·2	9,142
Sivaganga ...	‡ 1,680	1	520	155,909	‡ 235	+ 6·4	13,236
Tiruppattūr ...	...	2	366	209,036	...	+ 4·5	21,819
Tiruppuvanam ...	...	...	66	29,261	...	+ 2·1	2,271
Madura ...	446	1	283	308,140	691	+ 18·0	33,914
Tirumangalam ...	745	1	276	265,396	356	+ 0·3	12,968
Total ...	8,701	21	4,113	2,831,280	325	+ 8·5	205,062

* Includes Kodaikānal.

† Includes Mudukulattūr, Paramagudi, Tiruchuli and Tiruvādānai.

‡ Includes Tiruppattūr and Tiruppuvanam.

The chief towns are MADURA, a municipality and the administrative head-quarters, and DINDIGUL and RAMNAD, the head-quarters of two of the revenue sub-divisions. Of the total population

2,550,783, or 91 per cent., are Hindus by religion; 163,618, or 5 per cent., are Musalmāns, and 111,837, or 3 per cent., are Christians. The last are chiefly Roman Catholics, and the Muhammadans chiefly Sunnis by sect. Except in Madura tāluk, where there is a very large town population and the density of the inhabitants is as much as 700 to the square mile, the pressure of the population on the soil is nowhere very great. The principal vernacular is Tamil, which is the parent-tongue of nearly 80 per cent. of the people, but 13 per cent. of them speak a corrupt form of Telugu and 4 per cent. Kānārese, while Patnūli and Hindustāni are the vernaculars of two considerable sections.

The District contains a great variety of castes. The most numerous of them are the land-owning Vellālas (276,000), who are commonly known by their title of Pillais. Next come the Pallans, who number 220,000 and are usually employed in agricultural labour. The Kallans (218,000) are responsible for most of the crime in Madura District. They are divided into ten main exogamous subdivisions which are territorial in origin. From time immemorial they have levied black-mail on the villagers as the price of abstaining from robbing them, but the people revolted against their exactions in 1893-96 and many of the Kallans were driven from the villages in which they had resided. Next in point of numbers among the castes of the District come the Idaiyans (153,000), the great shepherd community, who are generally styled Konans; the Valaiyans (140,000) a shikāri caste found mainly here and in Tanjore; the out-caste Paraiyans (140,000); and the Agamudaiyans (125,000), who have a bad name for crime. These last closely resemble the Maravans, whose reputation for criminality is also notorious, and in their manners and customs they follow the Vellālas. Many of them are the domestic servants of the Maravar zamīndārs. The Maravans (112,000) are found mainly in this District and Tinnevely. They are usually cultivators but are experts in cattle-lifting. They also take a prominent part in the dacoities committed in these two Districts, and were the leaders of the anti-Shānār riots in them which were occasioned in 1899 by the claims of the Shānāns (85,000), the great toddy-drawer caste of the Tamil country, to the right of entering Hindu temples. The Chettis number 81,000. The most interesting and distinctive sub-division of this community are the Nāttukottai Chettis whose head-quarters are in the Tirupattūr and Tiruvādānai tahsils. They trade in Burma, the Straits Settlements and Colombo, are shrewd men of business, hold much of the wealth of the District, and are noted for their gifts to temples and public charities. The Tottiyans number 67,000. Some of the zamīndārs in the District belong to this caste. The Patnūlkārans, a weaving community (43,000) which speaks Patnūli (a dialect of Gujarātī) and is supposed to have emigrated from Gujarāt long ago, are found in large numbers in Madura town. Among the jungle tribes may be mentioned the Kunnavans and Paliyans whose ways and manners

Their
castes and
occu-
pations.

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DISTRICT.

are even more primitive than those of the general run of these backward classes. The Semmāns are noteworthy as affording one of the few examples of hypergamy yet noticed on this coast.

The proportion of the population which depends directly on the soil is greater than usual, amounting to 75 per cent. of the whole. The large number among this class of those who were returned in the census statistics as having proprietary rights in the land is most marked, exceeding the proportion found in any other District in the Presidency, while on the other hand the percentage of the whole population which depends on agricultural labour for its livelihood is much below the average. The inference is that the agriculturist of Madura is usually the owner of the land he tills and not merely a farm-labourer. Chiefly owing to the numbers of the Labbais, an enterprising Musalmān community, and the Nattukottai Chettis, the percentage of those who live by commerce is nearly double the normal.

Christian
missions.

Of the Christian population of 112,000 (of whom all but 636 are natives of the country) nearly 90,000 are adherents of the Roman Catholic Church. The work of the Madura Catholic Mission is now carried on in 1,060 villages, and it possesses 132 churches and 391 chapels. It is one of the most ancient and famous of all the missions of the south. As early as the beginning of the 17th century there was a Jesuit church in Madura, where a Portuguese priest ministered to a poor congregation of fishermen who had originally been converted by Francis Xavier, and the roll of those who have worked for it in the District includes such men as Robert de Nobili (died 1660), John de Britto (martyred in 1693) and the learned Beschi, whose Tamil compositions won the admiration of the best scholars in that tongue.

The American (Congregational) Mission of Madura, established in 1834, numbers about 17,600 members, has eleven stations, and works in 506 villages. The chief strength of the mission lies in its schools and hospitals. It manages a second-grade college at Madura, two high schools, eight boarding schools, 18 schools for Hindu girls and 174 day-schools giving instruction to 8,000 pupils, of whom 1,100 are girls. Its annual expenditure is Rs. 1,50,000. The Leipzig Lutheran Mission under a Swedish Board was established in 1874. It has now 1,200 members, 16 churches, 13 schools and 54 congregations.

General
agricultural
conditions.

The predominant geological formation of the District is granite, and a gravelly bed of laterite, which is often quarried for building purposes, runs through the eastern parts of it from north to south. These formations determine the nature of the soil in different parts.

Very little detailed information is on record regarding conditions in Rāmnād and Sivaganga zamīndāris, but over a considerable part of the former and of the Tirumangalam taluk the prevailing crop is cotton (*karisal*) variety and the allied kinds called *pottal*. With this exception the whole of the

District is covered with red ferruginous earth which, being often gravelly or stony in nature, is usually unfit for continuous cultivation or for the raising of the more valuable crops. Owing to the lack of perennial rivers from which a continuous supply of water could be drawn, the construction of tanks (artificial reservoirs) in which the rain is stored until it can be distributed to advantage has been a leading feature of the agriculture of the District from time immemorial.

A striking feature in Madura is the large preponderance within it of the zamindāri tracts over those held on the ryotwāri tenure. Deducting the former, for which no detailed returns exist, the net area for which particulars are on record is 3,532 square miles, or 40 per cent. of the whole. Statistics of this, for the year 1903-04, are appended :—

Chief
agricultural
statistics
and principal
crops.

Tāluk.	Area shown in accounts.	Forests.	Culturable waste.	Cultivated.	Irrigated.
Dindigul	795	88	67	533	75
Palni	328	3	25	267	70
Kodaikanal	413	210	18	39	5
Periyakulam	603	151	50	275	56
Melūr	485	105	43	253	91
Paramagudi (ryot- wāri villages only).	4	...	...	3	1
Madura	432	49	56	246	132
Tirumangalam	472	13	42	344	52
District Total ...	3,532	619	301	1,960	482

Of the total area 65 per cent. is arable, and of this area 84 per cent. is occupied ; while of the occupied area 82 per cent. is under cultivation. It will thus be seen that a considerable area is available for the extension of holdings. About 83 per cent. of the total area cropped is devoted to the production of food-grains, cereals occupying about 74 per cent. and pulses 9 per cent. The cereals chiefly cultivated are paddy, *varagu* (*Paspalum scrobiculatum*), *cholam* (*Sorghum vulgare*), *rāgi* (*Eleusine coracana*) and *cambu* (*Pennisetum typhoideum*). In Melūr tāluk the acreage of pulses other than horse-gram (viz., black, green, and red gram) is remarkably large. Industrial crops occupy 14 per cent. of the total area cultivated, the most important being cotton and the two oilseeds, gingelly and castor. Nearly 90 per cent. of the cotton is grown in Tirumangalam. The tāluks which raise the next largest extents are Dindigul, Periyakulam and Palni. Dindigul is famous for its tobacco, which is grown on a large area there and on considerable tracts in the adjacent tāluks of Periyakulam and Palni. On the slopes of the lower Palnis a good deal of coffee has been planted. In the tāluks bordering on Tinnevely the black variety of

MADURA
DISTRICT.Improve-
ments in
agricultural
practice.

sholam is cultivated somewhat extensively for fodder, being sown very thickly so as to induce a thin growth of the stalks. July, August, September and October are the busiest months for the sowing of crops.

The variations in the area of the holdings of Government land and in the land revenue of the District during the 25 years from 1871-72 to 1896-97 exhibit an increase of 22 per cent. and 24 per cent. respectively, which shows that assessment has advanced at practically the same rate as the increase in the area cultivated. The great famine of 1876-78 caused about 10 per cent. of the holdings to be given up, but naturally the current land revenue did not decrease in so large a proportion. Since that period the area and assessment have more than recovered, the extension in the area of holdings being especially marked.

Little has been done to improve the quality of the crops grown. In the sixteen years since 1888, six lakhs have been advanced under the Land Improvement Loans Act. In 1901 there was a large increase in the sums granted under the Agriculturists Loans Act, which is attributed to extensions of wet cultivation in the tracts served by the Periyār project referred to below. Before a field can be utilised for wet cultivation considerable expenditure is necessary to level it. Wet cultivation also requires more bullocks than dry.

Cattle,
ponies
and sheep.

Stock is maintained in the largest proportion to the extent of cultivation in the Kodaikānal and Melūr tāluks. The average area tilled by a pair of cattle is largest in Tirumangalam, where the black soils prevail, and is comparatively small in Madura and Periyakulam, owing apparently to the comparatively large proportion of wet lands there. Fine herds are found in the Palnis, where there is abundant grazing land. Elsewhere the country is generally deficient in pasturage for the greater part of the year. More attention is now being paid to the breeding and selection of stock, but no fodder is grown specially for the use of cattle except in Tirumangalam. A very large cattle fair is held at Madura during the annual festival in Chittrai (April-May), and fairly big weekly fairs at Madura and Dindigul. The Pulikulam breed of cattle, now reared at Ayyamkottai, is well-known locally. They are very compact animals and good trotters. Large and strong cattle are bred by some zamindārs for the *jellicuts*, the distinctive sport of Madura District. This game consists in tying a valuable cloth to a bull's horns and challenging any one to remove it. The large crowds present, the noise and shouting and the number of loose cattle which are dashing about make the bulls which carry the cloths extremely wild and excited, and the operation of removing the cloths is sufficiently hazardous. The plan of penning cattle at night on the fields for the sake of manure is prevalent. The ponies bred are weedy but extremely wiry. The sheep and goats of the District possess no points of especial interest.

The total amount of land watered from the various classes of irrigation in 1903-04 was 482 square miles. Of this, 167 square miles, or nearly 35 per cent., was supplied from Government canals; 175 square miles (36 per cent.) from tanks, or artificial reservoirs; and 133 square miles from wells. These last are chiefly found in the Palni taluk but are also common in Dindigul and Periyakulam and number 42,000 in the whole District. In Palni they irrigate on an average $6\frac{1}{2}$ acres each. The number of tanks is 4,081, which is more than in any other District in the Presidency. There are 181 river channels, 282 spring channels and 40 anicuts. During the last five years the successful introduction of the PERIYAR PROJECT has greatly advanced the prosperity of agriculture in the District. Briefly stated, it consists in damming up the Periyār (big river), which formerly ran uselessly down to the west coast through country which already had a sufficient supply from rainfall, and turning it through the Western Ghāts by a tunnel down to the eastern side of that range, where water for irrigation was the one thing necessary to the prosperity of the country.

MADURA
DISTRICT.
Irrigation.

The area under reserved forests, including ten square miles of reserved lands, is 619 square miles. The staff of the department consists of a District Forest Officer and five rangers, under each of the latter of whom are two foresters. The ranges are Kambam, Kodaikānal, Tāndikudi, Palamedu and Kanavāypatti. The Kambam range is steep and rocky and covered with boulders, and there is little soil except in the valleys. The forests in it contain little of the more valuable timbers such as teak, rosewood (*Dalbergia latifolia*) and *vengai* (*Pterocarpus Marsupium*), but in the Vannatipārai reserve a small teak plantation has now been made.

Forests.

In the Kanavāypatti and Palamedu ranges, the work is conditioned by the proximity of the towns of Madura and Dindigul on the South Indian Railway and of the wet land under irrigation from the Periyār project. The Forest department contracted with the South Indian Railway to supply it during 1903-04 with 12,500 tons of fuel. The forests are either situated on small isolated hills or on ranges of no considerable height, and the chief tree in them is *Albizia amara*. On the Sirumalais, Karandamalais and Perumalais are plantations containing a certain amount of vegetation, but the other hill tops are narrow and bare ridges.

The Kodaikānal range comprises the slopes of the Palni Hills facing the Palni and Periyakulam taluks. A fair amount of *vengai* and *nim* stands on these, but the forests have been injured by reckless felling in the past. There is little demand for timber owing to the supply from Travancore through the Kambam valley. Small coupes of from 40 to 50 acres are opened out periodically to meet the local demand for fuel and bamboos. The forest revenue for 1903-04 was Rs. 1,73,000 and is rapidly increasing.

MADURA
DISTRICT.

Minerals.

At Kottāmpatti in the Melūr tāluk the laterite beds are remarkably rich in iron in many places. In the river Vaigai and at Palkanūttu in Dindigul there are auriferous sands of poor quality, which are probably derived from denudation of the Palni Hills and are found only in limited areas. Salt is manufactured at certain stations on the sea-coast by solar evaporation. Near Pandalugudi in Tiruchuli tahsil there are traces of plumbago in crystalline limestone. The quarries of Puliarpatti in Tiruppattūr supply a large quantity of hornblendic rock used for pillars in temples, while at ARUPPUKKOTTAI in the Rāmnād zamīndāri a splendid rich red granite is found which quarries well. At Kalligudi chattram in Tirumangalam a pale granitoid with many pink garnets is largely quarried, and close to Mānāmadurai and Sivaganga in the Sivaganga zamīndāri typical laterite conglomerate of good quality occurs. In the neighbourhood of Kokulam in Tirumangalam important beds of crystalline limestone of great beauty are found. On Pāmban island there is an upraised coral reef, and, on the coast eastward from KILAKARAI, south of Pāmban, marine shelly limestone and calcareous sandstone occur.

Arts and
Manufac-
tures.

The most important art in the District is the silk-weaving carried on by the Patnūlkārans of Madura town. The industry is not flourishing owing to the extensive importation of machine-made goods from England and the competition of gold thread from France. Raw silk is obtained from Calcutta, Bombay, KOLLEGAL in Coimbatore District and Bangalore and Mattūr in Mysore. In dyeing, *kameila* powder (collected from the glands on the surface of the capsules of the tree *Mallotus philippinensis*) and lac are used for the production of yellow and red respectively. Aniline dyes are now largely resorted to, as the preparation of vegetable colours is a very tedious operation, but though they give lustre and brilliancy they are not so permanent as the indigenous pigments. Madura was once famed for the preparation of a deep red vegetable dye of great beauty, but this is now hardly ever made. The weaving industry in Dindigul was once important, but is declining owing to the importation of fabrics from Bangalore. In PARAMAGUDI some of the weavers have taken to other manual labour. In Rāmnād tahsil fabrics are made and sold locally. Coarse woollen blankets (*kambliis*) are manufactured to a small extent by Kuruba women in some 20 villages in Melūr, Dindigul and Palni tāluks. The process from the day of shearing the sheep to the completion of the blanket lasts a month.

The Madura Mills Company employs a daily average of 1,760 hands at Madura in cotton spinning. The outturn of the mills in 1903-04 was 16,000 lb. of yarn. Cotton cleaning is carried on in Mudukulattūr and Tiruchuli. Messrs. Spencer & Co. of Madras have a large cigar factory in Dindigul at which 746 hands are daily employed. There are three or four lock-makers at the same place whose handiwork is excellent and very well known. Tanning is also carried on there to a considerable extent by small employers. Bell-metal cooking vessels and lamps are made at Mānāmadurai and Dindigul.

The commercial centre of the District is Madura, which is the second largest town in the Presidency. The trade there is extensive, and the railway receipts are larger than those of any other station on the South Indian Railway. Commerce is chiefly carried on with the adjacent Districts of Tinnevely, Coimbatore and Trichinopoly. A large amount of cotton is sent by cart from Coimbatore through Madura to the cotton presses at Virudupatti and Tinnevely, and considerable quantities go to the same places from the District itself. Cotton and silk fabrics are largely exported, the raw silk of which the latter are made being imported from Mysore. Much tea is conveyed through the District from the Kannan Devan Hills in Travancore on its western border. Other exports are paddy, sheep and cattle, tobacco, spices and cardamoms. Imports include salt from Tinnevely, timber from Burma, which comes to the seaports on the coast, and from Travancore and the west coast Districts.

MADURA
DISTRICT.
Commerce.

Most of the internal trade is effected by the numerous weekly markets managed by the local boards, the receipts from the fairs collected at which amounted in 1903-04 to Rs. 42,000, or more than in any other District except Coimbatore. A large traffic in firewood is carried on between Madura town and the neighbouring hills, and leaf manure is carted in large quantities to the wet lands irrigated by the Periyār scheme. A considerable trade is carried on between the villages on the Palnis and the adjacent towns in the plains in hill products such as bamboos, honey, dyes and tans. The chief agents of commerce are the Chettis and Labbais already referred to.

The sea-borne trade of the District is conducted through the four ports of Devipatam, Kilakarai, Pāmban and Tondi, the value of the total trade in 1903-04 being respectively Rs. 1,66,000, Rs. 1,80,000, Rs. 5,93,000 and Rs. 8,24,000. These deal chiefly with other ports in India and with Ceylon. At Devipatam the chief import is rice and the principal export coloured cotton piece-goods; Kilakarai trades mainly in rice; Pāmban imports rice more than any other commodity, but its largest export is cattle, sheep and goats to Ceylon. Tondi does a large trade in teak from Burma, and its principal export is rice.

The main line of the South Indian Railway (metre gauge) runs from the Trichinopoly and Madura border to Madura town and thence to the Tinnevely border, a distance of nearly 100 miles. The first of these two sections was opened in 1875 and the second in 1876. In 1902 the branch from Madura to Pāmban island was completed as far as Mandapam, a village on the coast on the mainland side of the narrow strait which divides the island from the shore, a distance of 90 miles. This line has done much to open up the Rāmnād country, but communications by railway are still much needed in the eastern tahsils of that zamīndāri. A proposal has accordingly been made that a line should be constructed from Rāmnād *via* Tiruvādānai, Devakottai and Kāraikkudi to Kānnadukāttan on the north-easterly

Railways and
Roads.

MADURA
DISTRICT.

frontier of the District, provided that the Pudukkottai State consents to carry it on from Kānnadukāttan through Pudukkottai town to Tanjore. Should the State not consent to do this, the alternative course would be to take the line to Arantāngi in Tanjore District, and link it with the Tanjore District Board's railway to Arantāngi. A line has also been suggested from Dindigul to PALNI, provided that the Coimbatore District board continue it from the latter town to Coimbatore *via* Udamalpet. Another proposal contemplates a light railway from Ammayanāyakkanūr on the main line of the South Indian Railway to Kuruvanūttu at the foot of the Palni Hills with branches to the sanitarium of Kodaikānal and to BODINAYAKKANUR.

The total length of the metalled roads in Madura is 624 miles and of unmetalled 608; all these are maintained from local funds, except 24 miles which are kept up by the Public Works department. Avenues have been planted along 1,091 miles. The main lines are those from Madura leading respectively to Pudukkottai through Melūr and Tiruppattūr; to Mandapam through Rāmnād; to Trichinopoly through Melūr; to Aruppukkottai; to Allinagaram; and to Ammayanāyakkanūr; and those from Ammayanāyakkanūr to Pīrmed, from Dindigul to Palni, and from Dindigul to Vattānam. On the lower Palnis the Attūr ghāt road has been opened between Attūr and Kannanūr. The District is thus fairly supplied with means of communication except in the Rāmnād zamīndāri; there the roads are few and bad and in the rainy seasons are practically impassable.

Famine.

So far as recorded information goes, the District does not appear to have been seriously affected by any bad season prior to 1865. During the famine of 1866-67 the average monthly number of people in receipt of relief during eleven months was 4,000, of whom one-third were employed on works and two-thirds relieved gratuitously. The next famine was that of 1876-78. During the nineteen months between December 1876 and June 1878 the average number of persons relieved by Government was some 28,000. Madura was situated on the southernmost limit of distress. The maximum number relieved during any one month was 109,000 in September 1877. The north-east monsoon of 1892-93 was very deficient, and the necessity for carrying out relief-works on a large scale throughout the Rāmnād zamīndāri was only obviated by a very large migration of the people to the neighbouring rich District of Tanjore and to Ceylon, and by a fair fall of rain in March 1893 which gave succour to the residue.

Madura has three safe-guards against famine, namely, the railway, which did invaluable service in 1876-78 by bringing rice from Tuticorin and which now further runs to Mandapam, the Periyār irrigation project, and the readiness with which its people emigrate to Ceylon when the seasons are bad.

District
sub-division
and staff.

For general administrative purposes the District is grouped into four sub-divisions. Dindigul and Rāmnād are in charge of Covenanted Civilians and Madura and Melūr are usually in charge of Deputy

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DISTRICT.

Collectors recruited in India, though the latter is often assigned to the Assistant Collector. The Dindigul sub-division comprises the Dindigul, Palni, Periyakulam and Kodaikānal taluks; Rāmnād includes the zamīndāris of Rāmnād and Sivaganga, the island of Pāmban and a few Government villages; Madura comprises Madura and Tirumangalam taluks; and the Melūr Deputy Collector administers Melūr taluk and carries on the magisterial work of Madura town. The Rāmnād and Sivaganga zamīndāris are sub-divided into the eight zamīndāri tahsils of Mudukulattūr, Paramagudi, Rāmnād, Sivaganga, Tiruchuli, Tiruppattūr, Tiruppuvanam and Tiruvādānai, each in charge of a deputy tahsildār. At Dindigul, Madura, Melūr, Palni, Periyakulam and Tirumangalam, there is a tahsildār assisted by a stationary sub-magistrate. Subordinate to these tahsildārs are deputy tahsildārs with head-quarters at Uttamapālaiyam, Vedasandūr, Nilakottai, Madura town and Usilampatti. Another independent deputy tahsildār is stationed at Kodaikānal. The superior staff of the District includes the usual officers.

Civil justice is administered by the seven District Munsiffs of Madura, Dindigul, Periyakulam, Paramagudi, Sivaganga, Mānāmadurai and Tirumangalam (the court of the latter being at Madura), by two Subordinate Judges, Madura East and West, and by a District Judge. The village headmen have the usual civil powers in petty cases. In 1904 as many as 10,400 suits were filed before them. Litigation is more than usually common in the District.

Civil Justice
and Crime.

Thefts, house-breaking, dacoities and cattle-lifting are the chief criminal offences. The system of giving *tuppu kūli*, or clue wages, for the recovery of stolen property instead of reporting the theft to the police is very general and greatly hinders the detection of crime. The most noted thieves are the Kallans, who are experts in cattle-lifting and will often travel 40 miles in a night. The cattle they steal are either returned to their owners on payment of *tuppu kūli* or sold across the border in Tinnevely and Coimbatore Districts or even, sometimes, conveyed to Ceylon.

In the sketch already given of the political history of Madura, it has been seen that, from the 16th century the system of government was feudal, the poligārs enjoying large estates and collecting the revenue in an arbitrary fashion. It has also been mentioned that the history of the province of Dindigul differed from that of the rest of the District until this latter came into British hands, Dindigul having been acquired by conquest from Tipū Sultān in 1790 and the remainder of Madura having been finally ceded to the British in 1801. The revenue history of Madura proper is consequently distinct from that of Dindigul, while that of both differs again from the course of events in the two zamīndāris of Sivaganga and Rāmnād, which had long been under the rule of the Setupatis or chiefs of the latter place. Mr. Macleod was the first Collector appointed to the province of Dindigul. The system of administration adopted at first consisted in retaining the land revenue under the direct management of the officers of government.

Land
Revenue
administra-
tion.

MADURA
DISTRICT.

This did not succeed and the receipts dwindled to a very low figure. Mr. Macleod tendered his resignation of his post in 1794, and soon afterwards the province was leased out to renters for a term of five years. In 1796 Mr. Hurdis took charge of it. He concluded a survey of the greater part and introduced a system of settlement which, though it broke down at first because the assessments were too high, proved more satisfactory after it had been improved and elaborated. On the acquisition of the rest of Madura in 1801 Mr. Hurdis was made Collector of the whole District so constituted, including Dindigul. For the next three years the system of renting out the village seems to have prevailed. In 1804-05, however, a settlement founded upon the money-assessments introduced by Mr. Hurdis was made with each individual ryot. In 1807-08 triennial leases were granted to the village communities. These were failures, and in 1810-11 the system of settling with each ryot was reverted to. In 1814-15 this ryotwari tenure was formally adopted in both Dindigul and Madura proper and has continued in force from that date. The District was resurveyed between 1880 and 1885, and settled between 1885 and 1893. The survey showed that the old accounts had understated the area in occupation by 8 per cent., and the settlement resulted in an increase of one per cent. in the land revenue.

The average assessment per acre on dry land is now R. 1-1-8 (maximum, Rs. 2; minimum, As. 4) and that on wet land Rs. 4-1-9 (maximum, Rs. 8-8-0; minimum, Rs. 2-8-0). The revenue from land and the total revenue in recent years are given below in thousands of rupees :—

—		1880-81.	1890-91.	1900-01.	1903-04.
Land revenue	...	2,706	2,925	3,506	3,655
Total revenue	...	3,404	4,300	5,809	6,067

Local boards.

Outside the five municipalities of Madura, Dindigul, Palni, Periyakulam and Kodaikānal, the local affairs of the District are managed by the District board and the six taluk boards of Madura, Melūr, Tirumangalam, Sivaganga, Rāmnād and Dindigul. The areas in charge of the first five of these correspond with the taluks and zamindāris of the same names, and that controlled by the last of them comprises the taluks of Dindigul, Periyakulam, Palni and Kodaikānal. The expenditure of these boards in 1903-04 was about seven lakhs, the principal items of outlay being roads, medical institutions and sanitation and the upkeep of schools. Their income was derived mainly from the cess on land. The affairs of 37 of the smaller towns are managed by Union panchāyats established under Act V of 1884, which have power to raise a revenue from a tax on houses.

The police are in charge of a District Superintendent, with headquarters at Madura, and an Assistant Superintendent at Rāmnād. The force comprises 22 inspectors, one European head-constable for the reserve police, 153 other head-constables, and 1,069 constables. There are 107 police-stations, and the reserve police at head-quarters number 131. Punitive police forces are at present quartered at Aruppukkottai and Kamudi in consequence of the participation of the people of these places in the anti-Shānār riots of 1899. The village police numbers 659 talaiyūris, and 50 road talaiyūris are employed to guard certain spots along the main routes. The District jail is located in Madura town, and has accommodation for 455 prisoners, while 18 subsidiary jails have a daily average population of 116 prisoners and accommodation for 299. The chief industry in the Madura jail is cotton-weaving. Coir and grass matting are also made, the former chiefly for the Public Works department.

MADURA
DISTRICT.
Police and
Jails.

According to the census of 1901 Madura stands sixth among the Madras Districts in point of the literacy of its male population, and about seven per cent. of the total population (14.5 males and 0.5 females) can read and write. The tāluks which stand highest are Madura, where 11 per cent. of the people are literate, and Kodaikānal. The position of this latter is, however, largely due to the numbers of Europeans and Eurasians who reside in its head-quarter station. On the 31st March 1904, there were in the District 1,890 educational institutions of all kinds, of which 1,274 were public and 616 private concerns. The former included 1,230 primary, 33 secondary, and nine special, schools, and the two arts colleges at Madura. Four of them were maintained by the Education department, 83 by the local boards and seven by the municipalities, while 708 were aided from public funds and 472 were unaided. The girls reading in these numbered 4,539, and 690 more were in private elementary schools. The total number of pupils of both sexes who were under instruction in the District in 1880-81 was 20,971; in 1890-91, 42,506; in 1900-01, 63,087; and in 1903-04, 72,211. The number of boys in primary classes is 24 per cent. of those of school-going age, and the corresponding percentage of girls is 2. Among Musalmāns the percentages of scholars of each sex to the male and female population of school age is 77 and 5, respectively. About 5,000 Panchamas are being educated at 136 schools chiefly intended for that class.

Education.

The total expenditure on education in the District in 1903-04 was 3.68 lakhs, of which 1.29 lakhs was derived from fees. Of the total 57 per cent. was devoted to primary education.

There are 41 medical institutions in the District, with accommodation for 183 in-patients. The new municipal hospital in Madura town, which cost more than a lakh of rupees, is the largest. The Albert Victor Hospital belonging to the American Mission is a splendidly equipped building with accommodation for 44 in-patients. In 1903, 3,400 in-patients and 437,000 out-patients were treated and

Hospitals and
dispensaries.

MADURA
DISTRICT.

Vaccination.

16,000 operations were performed in all these institutions taken together. The total expenditure was Rs. 1,00,000, two-thirds of which was met from local and municipal funds.

The number of persons successfully vaccinated in 1903-04 was 77,000, or 28 per mille of the population, the Presidency average being 30 per mille. Vaccination is compulsory in all the municipalities and Unions.

W. Francis, *District Gazetteer*, 1906.

Dindigul Sub-division.—Sub-division of the Madura District of the Madras Presidency consisting of the tāluks of DINDIGUL, PALNI, KODAIKANAL and PERIYAKULAM.

Dindigul Tāluk.—One of the tāluks of the Dindigul sub-division of the Madura District, Madras, lying between 10° 0' and 10° 49' N. and 77° 40' and 78° 15' E., in the north of the District and extending over an area of 1,122 square miles. Its population was 430,524 in 1901 against 391,090 in 1891 and it contains one town, DINDIGUL, its head-quarters and a municipality of 25,182 inhabitants, and 209 villages. Deputy tahsildārs are stationed at Vedasandūr and Nilakottai. The land revenue and cesses demand in 1903-04 was Rs. 5,02,000, and the peshkash paid by the two zamīndāri estates of Kannivādi and Ammayanāyakkanūr within it amounted to an additional Rs. 52,000. The tāluk is an undulating plain bordered by the PALNI HILLS and the smaller Karandamalai and Sirumalai ranges. The soil, except where it is enriched by silt from the Palni and Sirumalai hills, is generally poor. The cultivation is almost wholly unirrigated, but a large number of wells supply patches of wet cultivation and garden crops. The chief river is the Kodavanār, a tributary of the Amarāvati. Among special crops may be noted tobacco, while plantains and coffee are cultivated on the Sirumalais.

Palni Tāluk.—One of the tāluks of the Dindigul sub-division in the north of the Madura District, Madras, lying between 10° 8' and 10° 48' N. and 77° 15' and 77° 55' E. Including Kodaikanal tāluk, which formerly belonged to it, it extends over 599 square miles. Its inhabitants numbered 214,972 in 1901 against 195,050 in 1891, and it contains one town PALNI, population 17,168, its head-quarters and a municipality, and 117 villages. Its land revenue and cesses demand in 1903-04 amounted to Rs. 2,96,000, of which Rs. 48,000 was peshkash paid by zamīndāri estates. The tāluk is bounded on the south by the PALNI HILLS. It is almost all unirrigated, but includes patches of wet land supplied by about 50 tanks, by the rivers Shanmukhanadi and Nangānji and by the Nallatanga stream. Compared with other parts of the Madura District it is thus not well protected from famine.

Kodaikanal Tāluk.—A minor tāluk in the Dindigul sub-division of the Madura District of the Madras Presidency. Its limits correspond roughly with the extent of the PALNI HILLS but their exact area has not yet been ascertained. The head-quarters is the well-

known hill-station of KODAIKANAL, population 1,912, and the taluk contains in addition 15 small hill villages. Its population in 1901 was 19,677 against 18,380 in 1891; and the land revenue and cesses demand amounted to Rs. 42,000 in 1903-04. Cultivation is carried on along the sides of the valleys and in some places presents a most picturesque appearance, owing to the numerous terraces which have been formed down the slopes of the hills, either to obtain sufficiently level ground or to render the hill-torrents available for irrigation. Among special products may be mentioned wheat, garlic, coffee, and cardamoms. The paddy produced is of a coarse quality and takes between eight and ten months to ripen. Plantains are very largely cultivated in the villages among the lower Palnis, and large herds of cattle are tended by the villagers of the upper part of the range. Education is backward among the natives and is promoted almost entirely by the Jesuit and American missions. The sanitation of the villages is more than usually defective.

Periyakulam Taluk.—A taluk of the Dindigul sub-division of the Madura District, Madras, lying in the south-west corner of the District between $9^{\circ} 32'$ and $10^{\circ} 15'$ E. and $77^{\circ} 11'$ and $77^{\circ} 51'$ E., and covering an area of 1,520 square miles. The population in 1901 was 320,098 as against 263,253 in 1891, and the taluk contains three towns, PERIYAKULAM, population 17,960, its head-quarters and a municipality, BODINAYAKKANUR (22,209) and UTTAMA-PALAIYAM (10,009), and 83 villages. The land revenue and cesses demand in 1903-04 amounted to Rs. 3,75,000 and peshkash from zamindari estates to Rs. 32,000. The taluk, compared with other parts of the District, is sparsely populated. Through it flow the VAIGAI and Suruli rivers, the latter of which receives the water of the PERIYAR PROJECT, and the tributary rivers Teni and Varāhanadi. On three sides it is hemmed in by hills, on the west by the WESTERN GHATS, on the north by the PALNI HILLS and on the south by the smaller Andipatti range. A large valley running up into the Western Ghāts is known as the Kambam valley and is one of the pleasantest parts of the District.

Melūr Taluk.—A taluk and sub-division in the eastern portion of the Madura District, Madras, lying between $9^{\circ} 52'$ and $10^{\circ} 30'$ N. and $78^{\circ} 8'$ and $78^{\circ} 29'$ E., and extending over an area of 485 square miles. Its population was 154,381 in 1901 as against 148,656 in 1891. It contains one town MELUR, population 10,100, its head-quarters, and 98 villages and its land revenue and cesses demand amounted in 1903-04 to Rs. 4,60,000. In the north, are the irregular masses of the Alagar, Nattam and Karandamalai hills. The more northern villages, which are known as the Arumāgānam, are situated among these hills and are difficult of access owing to the lack of roads. The soil is chiefly red sand. One-half of the taluk is supplied with water from the PERIYAR PROJECT, and some of the best varieties of paddy produced in the Presidency are grown in this part. The remaining

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portion is irrigated by the Pālār, the Tirumanimuttār and the Uppār streams, which, however, are not perennial, and by numerous small tanks which these rivers supply—or which are rain-fed. The tāluk has been greatly transformed and enriched by the Periyār water.

Rāmnād Sub-division.—Sub-division of the Madura District of the Madras Presidency consisting of the RAMNAD and SIVAGANGA estates. The former of these is sub-divided for purposes of administration into the zamīndāri tahsils of Rāmnād, Tiruvādānai, Paramagudi, Tiruchuli and Mudukulattūr; while Sivaganga, Tiruppattūr and Tiruppuvanam are comprised in the latter.

Rāmnād Estate.—A permanently settled zamīndāri estate in the south and east of the Madura District, Madras Presidency, lying between 9° 6' and 10° 6' N. and 77° 56' and 79° 19' E., consisting of the five zamīndāri tahsils of Rāmnād, Tiruvādānai, Paramagudi, Tiruchuli and Mudukulattūr, and comprising an area of 2,104 square miles with a population (1901) of 723,886. It includes within its limits the whole of the sea coast of the District. The land revenue and cess payable to Government by the estate in 1903-04 was 3½ lakhs.

Regarding the early history of the zamīndāri, legends are plentiful but facts are few. Its chiefs are the titular heads of the numerous caste of the Maravans and bear the title of Setupati or Lord of the Causeway. This causeway is the ridge of rock which used to connect the tongue of the mainland running out into the Gulf of Manaar with the island of PAMBAN. Pāmban island contains the holy temple of RAMESWARAM, and tradition has it that when Rāma crossed to the island from Ceylon by way of ADAM'S BRIDGE and founded the temple as a thank-offering for his victory over Rāvana, he also appointed the first Setupati to protect the pilgrims who should traverse the causeway to visit it. The chiefs of Rāmnād appear to have undoubtedly borne the title as far back as the 14th and 15th centuries, and in the early years of the 17th century it was formally conferred by one of the Naik kings of Madura on the head of the Maravans, from whom the present owners of the estate are descended.

Of the earlier chiefs Raghunātha Kilavan (1673-1708) is perhaps the best known. It was he who moved the capital of the country from Pogalūr, the ancient family seat, to its present site ten miles further east at RAMNAD, which he fortified. About 1725 a usurper became Setupati, but he treated his vassals so harshly that one of them joined the legitimate heir and, with the help of the Rājā of Tanjore, attacked and defeated him. The country was divided by the victors, the Rājā of Tanjore annexing that part of it which lay north of the Pāmbār river. The rebellious vassal took the more valuable two-fifths of the remainder and founded there the line of the present zamīndārs of SIVAGANGA, while the other three-fifths, the present Rāmnād zamīndāri, went to the lawful heir. Throughout the Carnatic wars the troops of Rāmnād frequently figure on one side or the other. In 1795

the Setupati was deposed by the British for insubordination and misrule and died a state prisoner. The estate was formed into a zamīndāri in 1803, a permanent *sonad* (title-deed) being granted to the deposed chief's sister.

The rule of her successors has been in the main one long chronicle of mismanagement, litigation, and debt. The last Rājā of Rāmnād succeeded in 1873 as a minor, and the estate was accordingly managed for the next sixteen years by the Court of Wards. During this period 8½ lakhs were spent on repairs to irrigation works, 14 lakhs of debt were cleared off, and the estate was handed over to its owner in 1889, in good order, with a revenue which had been increased from five lakhs to nine, and with a cash balance of 3½ lakhs. Within the next five years the Rājā had spent this balance, incurred further debts of over 30 lakhs, and pledged the best portions of the estate to his creditors. The zamīndāri is now managed by trustees for the creditors and the present proprietor, who is a minor.

The zamīndāri is perhaps the most desolate and uninviting area of its size in the Presidency. Almost dead level throughout, and for the most part infertile, its coast is lined with blown sand and brackish swamps diversified only by stunted scrub and palmyra palms. It has only two fair roads (those from Madura to Rāmnād and to Tiruchuli), its irrigation works are dependent upon the capricious rivers VAIGAI and Gundār and are often in the last state of disrepair and neglect, and except Rāmnād and Rāmeswaram, already referred to, it contains no town of interest or importance. Its chief port, KILAKARAI, is in a declining state, and two others of its principal towns, KAMUDI and ABIRAMAM have advanced but little for many years. PARAMAGUDI, on the road to Madura, has some reputation for hand-painted cloths, but the only flourishing town in the estate is ARUPPUK-KOTTAI on the western border, which derives much of its prosperity from trade with the neighbouring District of Tinnevely.

The South Indian Railway has recently been carried from Madura through Rāmnād to Mandapam, at the extreme end of the tongue of mainland which runs out to meet PAMBAN ISLAND. Projects for carrying it over the remains of the old causeway on to the island, and for cutting a ship canal through the island and establishing a port for ocean-going vessels near by are now under consideration, and if carried out will greatly increase the prosperity of this portion of the zamīndāri. Pāmban and the other smaller coral islands in the Gulf of Manaar are even at present the pleasantest portions of the estate, and are noted for their turtles and oysters.

Rāmnād Tahsil.—A zamīndāri tahsil in the estate and subdivision of Rāmnād in the Madura District, Madras. Its population numbered 107,601 in 1891 and 112,851 in 1901 and it contains three towns, RAMNAD, its head-quarters, population 14,546; KILAKARAI, a decaying seaport on the coast, population 11,078; and RAMESWARAM (6,632), which stands on the island of PAMBAN

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and is noted for its beautiful temple. The tahsīl is an unlovely tract, consisting for the most part of poor sandy or saline soils and covered with little growth beyond stunted shrubs and palmyras. The sea-breezes however suffice to keep it cooler than most of the rest of the District.

Tiruvādānai.—A zamīndāri tahsīl forming part of the RAMNAD ESTATE and lying in the northern portion of the Rāmnād sub-division of the Madura District of the Madras Presidency. Its population in 1901 was 155,346 and in 1891, 151,472. It contains one town, DEVAKOTTAI, population 9,503, and 809 villages. The head-quarter station is Tiruvādānai, where a deputy tahsildār is located. The tahsīl reproduces the general features of the Rāmnād sub-division and is a level plain undiversified by hills, forests or rivers. The sources of irrigation are rain-fed tanks. The population mainly consists of Kallans, Maravans and Agamudaiyans, but the most influential class are the Nāttukottai Chettis, who chiefly live in Devakottai and the neighbouring villages and carry on a widespread business in money-lending. Muhammadans are found in large numbers on the sea coast near Tondi, a seaport of some note possessing a considerable import trade in teak and other timber from Burma and Ceylon and exporting sheep and paddy to Ceylon. The only religious centres are the temples of Tiruvādānai and Kandanūr and the sole object of antiquarian interest is a ruined Jain temple at Hanumantakudi.

Paramagudi Tahsīl.—A zamīndāri tahsīl in the Rāmnād sub-division and estate in the Madura District of the Madras Presidency. Its population in 1901 was 142,665 against 131,151 in 1891, and it contains one town, PARAMAGUDI, population 16,134, a station on the Madura-Pāmban Railway and the head-quarters of the deputy tahsildār, and 375 villages. The river VAIGAI passes through the tahsīl and serves as the main source of irrigation.

Tiruchuli.—The westernmost zamīndāri tahsīl in the RAMNAD ESTATE and the Rāmnād sub-division, Madura District, Madras Presidency. Its population was 166,769 in 1901 and 164,239 in 1891. It contains two towns and 354 villages. The larger of the former is ARUPPUKOTTAI, population 23,633, its head-quarters, which carries on an extensive trade with the neighbouring District of Tinnevely. Pālaiyampatti, the other town, had in 1901 a population of 4,967. The chief manufacture is the weaving of cloths of inferior quality. The country is for the most part covered with black cotton soil; it is desolate and arid and the monotony of the plain is relieved only by palmyras and patches of low scrub. The irrigated area is, proportionately to the total extent, very small.

Mudukulattūr.—A zamīndāri tahsīl in the Rāmnād estate and sub-division in the Madura District of Madras. It is named after its head-quarter village, where a deputy tahsildār and sub-magistrate is stationed. Its population in 1901 was 146,255 and in 1891 was

135,182. It contains two towns, ABIRAMAM, population 7,338, and KAMUDI (6,854), and 399 villages. The tahsil possesses the same desolate and uninviting appearance as the rest of the Rāmnād zamīndāri. It is largely covered with black cotton soil and during the rains, owing to the almost entire absence of roads, the country is nearly impassable.

Sivaganga Estate.—A permanently settled zamīndāri estate in the Rāmnād sub-division of the Madura District of Madras, lying between $9^{\circ} 30'$ and $10^{\circ} 17'$ N. and $78^{\circ} 5'$ and $78^{\circ} 58'$ E., covering 1,680 square miles, and containing 394,206 inhabitants in 1901. The peshkash payable by the zamīndār to Government (including cesses) amounts to three lakhs of rupees. Formerly the estate was part of the neighbouring zamīndāri of RAMNAD, the territory of the chiefs, called Setupatis, or lords of the causeway leading to the sacred temple of RAMESWARAM, but about 1730 one of these Setupatis was forced to surrender two-fifths of his possessions to the poligār of Nālkottai, who thenceforth became independent and was known as the Lesser Maravan, Maravan being the caste to which both he and the Setupati belonged. During the latter part of the 18th century the rulers of Sivaganga were involved in the struggles of greater powers. In 1773 the country was reduced by the British, the Rājā was killed at Kāliyārkoṭṭai and his widow was forced to flee to Dindigul, where she remained under the protection of Haidar Ali. Later, she was restored as zamīndārni, and in 1803 the permanent settlement was made with one Udaya Tevan of the family. The subsequent history of the estate has been a tale of mismanagement and litigation, one of the succession suits which have taken place having lasted a very long time and cost a great deal of money. At present its resources are being greatly developed by European lessees who, in consideration of having paid off the last zamīndār's debts and made him an allowance for life, obtained a lease of the entire estate for a term of 30 years. The present zamīndār is a minor under the Court of Wards.

Sivaganga Tahsil.—A zamīndāri tahsil in the Rāmnād sub-division of the Madura District of the Madras Presidency, which together with the Tiruppattūr and Tiruppuvanam tahsils makes up the SIVAGANGA ESTATE. The population in 1901 was 155,909, and in 1891 was 146,549, and the tahsil contains one town SIVAGANGA (population 9,097), the head-quarters of its deputy tahsildār, and 520 villages. It is an unbroken level plain covered mainly with red soil and is fairly fertile. Its crops are irrigated chiefly by the VAIGAI and by river-fed tanks.

Tiruppattūr Tahsil.—A zamīndāri tahsil belonging to the SIVAGANGA ESTATE and situated in the northern portion of the Rāmnād sub-division, Madura District, Madras. Its population was 209,036 in 1901 and 200,087 in 1891. It contains two towns and 366 villages. TIRUPPATTUR town, its head-quarters and the station

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of a deputy tahsildār, had in 1901 a population of 5,881, while KARAIKKUDI contains 11,801 inhabitants. The chief sources of irrigation are the Pālār river and rain-fed tanks, but the tahsīl depends in large measure for its food supply upon the neighbouring tāluk of Melūr, half of which is supplied with water from the PERIYAR PROJECT. Among its few manufactures may be noted brass vessels and cocoa-nut fibre. The country is a level plain, broken only by a few hills near Pirānmalai and Karisappatti, and the soil is red sand.

Tiruppuvanam.—A zamīndāri tahsīl forming a portion of the SIVAGANGA ESTATE in Rāmnād sub-division of Madura District, Madras. It contains 66 villages, the chief of which is Tiruppuvanam, a station on the South Indian Railway and its head-quarters, and its population in 1901 was 29,261 as against 29,878 in 1891. The tahsīl lies along the bank of the VAIGAI river, which supplies many of its irrigation tanks. The soil is mainly alluvial.

Madura Sub-division.—Sub-division of the Madura District of the Madras Presidency consisting of the tāluks of MADURA and TIRUMANGALAM.

Madura Tāluk.—A tāluk in the sub-division and District of the same name, in the Madras Presidency, lying in the centre of the District between 9° 45' and 10° 12' N. and 77° 51' and 78° 18' E., and covering an area of 446 square miles. Its population in 1901 was 308,140 against 261,195 at the previous census, and it contains one town MADURA, population 105,984, its head-quarters and the second largest municipality in the Presidency, and 283 villages. The land revenue and cesses demand in 1903-04 amounted to Rs. 6,40,000 excluding peshkash (Rs. 3,000) paid by zamīndāris. The chief source of the agricultural prosperity of the tāluk is the water of the PERIYAR PROJECT, since the advent of which a large extension of wet cultivation has been made. Through the tāluk runs the VAIGAI river, and it is bordered on the north and west by the Sirumalai and Nāgamalai hills.

Tirumangalam Tāluk.—A tāluk in the west of the Madura sub-division of the Madura District, Madras, adjoining Tinnevely and lying between 9° 37' and 10° 5' N. and 77° 42' and 78° 7' E. Its area is 745 square miles and its population in 1901 was 265,396 against 264,621 in 1891. It contains one town TIRUMANGALAM, population 8,894, its head-quarters and a station on the South Indian Railway, and 276 villages. The land revenue and cesses demand in 1903-04 was Rs. 4,50,000, of which Rs. 38,000 was peshkash paid by zamīndāri estates. The tāluk consists for the most part of black cotton soil assessed at Rs. 2 an acre or slightly less. It is largely inhabited by the thief-caste of the Kallans, who are notorious cattle-lifters. The irrigation sources are mostly rain-fed. A hill called Saduragiri is visited by many pilgrims from various parts of the District on the festival of Adi Amāvāsai. A small temple at Kovilpatti near Vikramangalam is noted for its stone-carving and its conservation has been undertaken by Government.

Abirāmam.—A town in the RAMNAD ESTATE, Madura District, Madras Presidency, situated in $9^{\circ} 26' N.$ and $78^{\circ} 27' E.$ The population in 1901 was 7,338, of which nearly half consisted of the Musalmān trading community of the Labbais. The chief industry is cotton-weaving, and there is a considerable trade in grain, cotton and cloths. The town possesses a good supply of drinking water and a fine irrigation tank. A local superstition declares that within an area of two miles snake-bite is innocuous.

Adam's Bridge.—A ridge of sand and rocks about seventeen miles in length stretching from north-west to south-east from the island of RAMESWARAM on the coast of the Madura District, Madras Presidency, to the island of Manaar off Ceylon, and nearly closing the northern end of the GULF OF MANAAR. The centre of the bridge is in $9^{\circ} 5' N.$ and $79^{\circ} 34' E.$ At high tide three or four feet of water cover it in places. Hindu tradition says that the bridge was made by Hanumān, the monkey-god, and his army of monkeys to convey Rāma across to Ceylon in his expedition to recover his wife Sītā, whom Rāvana, the ten-headed demon king of that island, had carried off. It is under consideration to carry the railway which now runs as far as Mandapam, on the mainland opposite the island of PAMBAN, across to the island and thence over this ridge to Ceylon, thus linking up the Ceylon and Indian railways and establishing direct and unbroken communication between the port of Colombo and India generally.

Alagarkovil.—A temple at the foot of the south-eastern slope of the Alagar hill, sacred to the god Alagar and situated about 12 miles north-east of Madura, in $10^{\circ} 5' N.$ and $78^{\circ} 14' E.$, in the Melūr tāluk of the Madura District, Madras Presidency. The building is very ancient and is held in special repute by the Kallans and other thieving communities, who are said to devote to the god a portion of their ill-gotten gains in the expectation that they will thereby be successful in their criminal expeditions. The temple is surrounded by an extensive outer wall which once served as a fortification. At the festival on the new-moon day of the month of *Ādi* thousands of worshippers from the neighbouring Districts gather here. Several fine porches about it are now rapidly falling into ruins. Three miles away on the Alagar hill is a building which contains a spring the water of which is believed to possess power to cleanse from all sin.

Aruppukkottai.—The head-quarters of the Tiruchuli tahsil of the RAMNAD ESTATE, Madura District, Madras, lying in $9^{\circ} 31' N.$ and $78^{\circ} 6' E.$ Its inhabitants numbered 23,633 in 1901. It is a thriving place and its population has doubled in the last 20 years, but it suffers greatly from lack of proper communications and is 13 miles distant from VIRUDUPATTI, the nearest railway-station. The population consists chiefly of Sedans, who are weavers, and of Shānāns, who are an enterprising community in commercial matters and have brought the town to its present flourishing condition. The place has at present to support a force of punitive police owing to the recent

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disturbances which took place in consequence of the claims of the people of this caste, which is considered to be low in the social scale, to enter the ordinary Hindu places of worship. Its chief industries are cotton-weaving and dyeing. The fabrics made here are exported to Colombo, Singapore and Penang.

Bodināyakkannūr.—A town in Periyakulam taluk, Madura District, Madras Presidency, lying in $10^{\circ} 1' N.$ and $77^{\circ} 21' E.$ The population in 1901 was 22,209. The town, which is the chief place in the zamindāri of the same name, is growing rapidly, mainly because the coffee, cardamoms and tea of the Devikolam and Munnar estates, which have in recent years been opened out on the hills in Travancore just above it, pass through on their way to the railway, and it is a base for the supply of the grain and other articles consumed by the employés on these properties. It is under consideration to construct a line to the town from Ammayanāyakkannūr on the South Indian Railway. The Bodināyakkannūr zamindāri is one of the 72 ancient *pālāiyams* (poligārs' estates) of Madura. The zamindār's family is said to have emigrated hither from Gooty in 1335 A.D. The estate was seized by Haidar Ali in 1776 and after an interval of semi-independence was resumed by his son Tipū for arrears of tribute. The Rājā of Travancore subsequently seized the property, but in 1793 the zamindār recovered it. The country was thereafter settled by the Company's officers.

Devakottai.—A town in the Tiruvādānai tahsil of the RAMNAD ZAMINDARI, Madura District, Madras, lying in $9^{\circ} 57' N.$ and $78^{\circ} 51' E.$ The place is chiefly interesting as being the chief centre of the large and wealthy trading community of the Nāttukottai Chettis, and abounds in the fine residences which these people are so fond of constructing for themselves. It has a population of 9,503 (1901).

Dindigul Town (*Dindu-kal*, the rock of Dindu, an asura or demon).—The head-quarter town of the sub-division and taluk of the same name in the Madura District, Madras, lying on the South Indian Railway in $10^{\circ} 22' N.$ and $77^{\circ} 59' E.$ It was constituted a municipality in 1866 and the average total municipal receipts and expenditure in the ten years ending 1902-03 amounted to Rs. 35,900 and Rs. 37,900 respectively. In 1903-04 they were respectively Rs. 43,000 and Rs. 42,700, the former consisting chiefly of the proceeds of tolls, the taxes on houses and land, and fees from markets. A scheme for the supply of the town with water was completed in 1896 at a cost of Rs. 76,600. The extension of the head works at a further outlay of Rs. 39,000 has been sanctioned. The population in 1901 was 25,182, of whom 18,060 were Hindus, 3,175 Musalmāns, and 3,947 Christians. Situated 880 feet above the level of the sea, the town has a dry and hot but healthy climate. At a few miles distance rise the masses of the PALNI HILLS and the Sirumalai range. The staples of local trade are hides, tobacco, and coffee and cardamoms from the estates on the Palni Hills, for the conveyance of which the system of

roads radiating from the town affords exceptional facilities. The chief manufacture is cigar-making, 746 hands being daily employed by Messrs. Spencer and Co., in their important factory. Silk thread of peculiar fineness is spun by weavers of the Patuñkārān community, and Dindigul locks are renowned throughout the Presidency. Being the head-quarters of the sub-division, Dindigul contains the office of the Divisional officer and also those of an Assistant Engineer, a District Munsiff, a tahsildār and a sub-magistrate. There are two churches, one belonging to the American Mission and the other to the Roman Catholics, and also a dispensary and a hospital. The streets and roads are well laid out, and the substantial nature of the houses shows that the population is flourishing.

Dindigul was formerly the capital of a province which was practically independent of, although nominally belonging to, the Madura kingdom. The fort which commands the town is built on a remarkable wedge-shaped rock 1,223 feet above the sea and still remains in good preservation, having been occupied by a British garrison until 1860. As a strategical point of great natural strength dominating the passes which lead to Madura from the Coimbatore country, its possession in former times was frequently keenly contested. Between 1623 and 1659, the years of Tirumala Naik's reign, it was the scene of many encounters between the Marāthās and the Mysore and Madura troops. In the next century Chanda Sāhib (the minister of the Nawāb of the Carnatic), the Marāthās and the Mysore troops occupied the fort in turn. In 1755 it was garrisoned by Haidar Ali, who used it as one of the bases from which he conducted his operations in the Carnatic and utilised the natural strength of the position to thwart British schemes in Trichinopoly and Madura. In the wars with Mysore the fort was captured by the English under Colonel Wood in 1767 and restored to Haidar Ali by treaty in 1768. It was again captured in 1783 by Colonel Lang and again restored in 1784 under the treaty of Mangalore. It was finally captured by Colonel Stuart in 1790 and ceded to the East India Company in 1792.

Kamudi.—Town in the Mudukulattūr tahsil of the RAMNAD ESTATE, Madura District, Madras, lying in 9° 24' N. and 78° 23' E. Its population is 6,854, of whom 1,000 are Musalmāns. The town contains a large Siva temple, which has been the subject of a famous law-suit, the Shānāns, a caste of toddy-drawers and merchants, claiming the right to enter within its precincts and the majority of the rest of the Hindus opposing their claim. The town participated in the riots which were caused in 1899 by this and other pretensions of the Shānāns and a small force of punitive police is now quartered on it. Brass and bell-metal vessels are manufactured here.

Kāraikkudi.—A town in the Tiruppattūr tahsil of the SIVA-GANGA ESTATE, Madura District, Madras Presidency, situated in 10° 4' N. and 78° 47' E. Its population has rapidly increased and

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numbered 11,801 in 1901 against 6,579 in 1891. The town is chiefly noted as one of the centres of the Nattukottai Chettis, an enterprising class of merchants and money-lenders, and the many handsome residences which these people have constructed within it have added greatly to its appearance.

Kilakarai.—A sea port in the Rāmnād tahsīl of the RAMNAD ESTATE, Madura District, Madras, lying in $9^{\circ} 14' N.$ and $78^{\circ} 48' E.$ on the GULF OF MANAAR ten miles south of RAMNAD, from which place it is separated by a wide morass, all but impassable in wet weather. It is an untidy and dreary-looking town surrounded by sandy wastes and a little low scrub. The population (11,078 in 1901) consists mainly of Labbais, a Musalmān trading community. Its commerce, which is chiefly in grain, is carried on mainly with Cocanāda and Ceylon. The Labbais are experts in diving for chank-shells (*Turbinella rapa*), which are obtained principally opposite Devipatam, Tirupālakudi and Rāmeswaram.

Kodaikānal Town (Forest of creepers).—Formerly an insignificant hamlet of Vilpatti village in the Kodaikānal tāluk, on the PALNI HILLS in the Madura District of Madras, situated in $10^{\circ} 14' N.$ and $77^{\circ} 29' E.$, but now one of the largest hill sanatoria in that Presidency. It is the head-quarters of Kodaikānal tāluk and was constituted a municipality in 1899. The municipal receipts and expenditure in 1903-04 were Rs. 10,700 and Rs. 9,900 respectively; most of the former was derived from the taxēs on land and houses. A scheme for supplying the place with water, at a cost of Rs. 63,000, is under consideration. The station contains three churches, a school for European boys and girls managed by the American Mission and a municipal hospital. Its population according to the census of 1901 was only 1,912 (or less than that of any other municipality in the Province), but this enumeration was made in the cold season, before the influx of the numerous hot-weather visitors and their following had begun.

The sanitarium stands about 7,000 feet above sea level. The houses of the European residents are picturesquely grouped about a natural theatre of hills surrounding an artificial lake which has been constructed at the bottom of a beautiful little valley, or on the cliff which overhangs the ghāt road leading up from the low country from PERIYAKULAM. The temperature of the station is similar to that of OOTACAMUND but somewhat milder; and, as the rainfall is lighter, and the atmospheric conditions more equable, than those of the Nīlgiris, the climate of the place may be said to be one of the best in India. Round about Kodaikānal are grassy rolling downs, with beautiful little woods nestling in their hollows and perennial streams flowing through them, very similar to, though somewhat steeper than, those about Ootacamund. The place is thus capable of considerable extension, and its development is at present mainly retarded by its lack of easy means of communication with the low country and the railway.

The journey from the nearest railway-station, Ammayanāyakkanūr on the South Indian line, to the foot of the hills where the bridle path up the ghāts begins, a distance of 33 miles, is made in bullock-carts. The bridle path makes an ascent of about 6,000 feet in some eleven miles and is quite impracticable for any wheeled vehicles. Visitors have either to ride or be carried up in chairs. The want of a cart road also occasions difficulties in getting up articles from the low country. A driving road through the lower Palnis or a light railway through the Periyakulam valley have been suggested as means of improving these communications, and a trace for a ghāt road from the Palni side has been made out. Want of funds has prevented its execution.

Near the station is the Kodaikānal Observatory, which is placed 7,700 feet above sea level. Under the scheme for the re-organization of Indian observatories which came into operation in 1899, the chief part of the Madras Observatory was transferred to Kodaikānal, the place being preferred to Ootacamund on account of its greater freedom from mist and cloud, and the former Government Astronomer became Director of the Kodaikānal and Madras observatories. The appliances and powers of this observatory are now directed to the prosecution of enquiry in the sciences of terrestrial magnetism, meteorology and seismology, and to astronomical observations for the purpose of time-keeping, but chiefly to the important subject of solar physics.

About 1,000 feet below Kodaikānal, at Shembaganūr, is a Jesuit College containing 65 students who undergo a course of training for seven years in preparation for the priesthood.

Madura Town.—Head-quarters of the District and tāluk of the same name in the Madras Presidency, situated on the south bank of the VAIGAI river, in $9^{\circ} 55' N.$ and $78^{\circ} 7' E.$ It lies on the main line of the South Indian Railway and is 345 miles from Madras. A branch railway has recently been opened to Mandapam on the end of the tongue of land which runs out into the sea to meet the island of PAMBAN. The population in 1871 was 51,987; in 1881, 73,807; in 1891, 87,428; and in 1901, 105,984, and it is now the second largest town in the Presidency. Of the inhabitants, 93,103 are Hindus, 9,122 Musalmāns and 3,750 Christians. Being the District head-quarters, it contains the offices and staff usual to such places. Most of the residences of the European officials were formerly in the town itself among insanitary surroundings, but of late years dwellings for some of them have been constructed in a higher and healthier situation on the other bank of the Vaigai.

The history of the town is largely the same as that of the District to which it gives its name, the religious and political life of which has from time immemorial centred in it. The earliest mention occurs in the times of the ancient PANDYAS, several centuries before the Christian era, and the place reached the culmination of its prestige in

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the middle of the 17th century under the Naik kings who contributed so much to its architectural adornment. Little is known of its early history. The *sthala purāṇa* (local chronicle) preserved in the great temple gives a mythical account of the foundation of that building and of the town, but is legendary rather than historical, and the mists which enshroud the origin of the place hardly lift for any length of time until the 14th century, when (like the rest of south India) Madura was subjected to the invasion of the Muhammadans of the north. The conquerors seem to have treated its inhabitants with the greatest cruelty and they sentenced the great temple of the city to destruction. The outer wall, with its fourteen towers, was pulled down, and the streets and buildings which it protected were destroyed. The two shrines of Sundaeswara and Mīnākshi were, however, ultimately spared. The people of Madura were at last freed from the yoke of foreign despotism by Kampana Udaiyār (1372), and after the expulsion of the Musalmāns the priests of Siva regained their revenues and rebuilt the four lofty *gopurams* or tower-gateways, which now stand in the outer wall of the temple. The middle of the 16th century saw the foundation of the Naik dynasty already referred to, and the *sahasra-stambha mandapam* or Hall of a thousand pillars, one of the principal structures in the building, was erected by Arya Naik Mudali, the general and minister of Viswanātha, the first ruler of that line. The temple now forms a parallelogram 850 feet long from north to south by 750 feet broad surrounded by nine *gopurams*, one of which is 150 feet high. These are conspicuous features of the landscape for miles around. The building is profusely ornamented both with sculpture and paintings and owns a large number of valuable jewels. The groups of figures carved from single huge stones in the hall of the thousand pillars and elsewhere are the most remarkable of their kind in south India and are marvels of industry and elaboration. The temple is sacred to Siva in his form Sundaeswara and to the local goddess Mīnākshi. The other important buildings of Madura are all associated with the name of Tirumala Naik, who reigned from 1623 to 1659. The chief of these is his palace, the most perfect relic of secular architecture in the Madras Presidency. The District Court and other offices are located in this building, which has been successfully restored by the Government. The main structure consists of two parts, an open court and a lofty hall. The former measures 244 feet east and west by 142 feet north and south and is surrounded on all sides by arcades of very great beauty. The pillars which support the arches are of stone, 40 feet in height, and are joined by foliated brick arcades of great elegance of design. The whole of the ornamentation is worked out in the exquisitely fine stucco called *chunam*, made from shell-lime, which is characteristic of this Presidency. On one side of the court stands an apartment which was formerly the throne room of the palace. It is an arcaded octagon, covered by a dome 60 feet in diameter and the same in height. On another side is a splendid hall

120 feet by 67 feet and 70 feet high to the centre of its roof, one of the chief peculiarities of which is the resemblance of its style to Gothic architecture.

Next in importance to this palace is the Vasanta or Puḍu Mandapam, which is said to have been built as a summer retreat for the god Sundareshwara. It consists of a hall 333 feet long by 105 feet wide. The roof is flat and rests on four rows of stone pillars, all of which are different in design and are elaborately decorated with the characteristic images and emblems of the Hindu religion, life-size figures and conventional carving. On the northern bank of the Vaigai stands the Tamakam, a building of quaint semi-Moorish architecture, which is said to have been erected as a pleasure house from which to view combats between wild beasts and which is now the official residence of the Collector. Lastly the Teppakulam, a great tank about a mile and a half east of the town, is also assigned to the time of Tirumala. This reservoir is a perfect square, measuring 1,200 feet each way. Its sides are faced with granite and surmounted by a handsome parapet, also of granite, beneath which runs a continuous paved gallery. In the centre rises a square island with a lofty domed temple in the middle and a tiny shrine at each corner. Once a year the tank is illuminated by 100,000 lights.

Madura town was constituted a municipality in 1866. The average total municipal receipts and expenditure for the ten years ending 1902-03 amounted to Rs. 1,49,000 and Rs. 1,74,000 respectively. In 1903-04 the income was Rs. 2,32,000, including water-tax (Rs. 28,000), the tax on buildings (Rs. 57,000), tolls (Rs. 26,000) and the tax on professions (Rs. 12,500). The chief items in the expenditure, which amounted to Rs. 2,18,000, were water-supply and conservancy (Rs. 70,000) and medical services (Rs. 17,000). The water-works, which derive their supply from the under-ground springs in the bed of the Vaigai river, were completed in 1894. Estimates for increasing the quantity of water available by constructing a receiving gallery across the river have been prepared and are under consideration. A scheme for the drainage of the central part of the town has also been drawn up.

Madura is the industrial and educational centre of the District. Its chief industry is weaving. The silk-weavers, called Patnūlkārāns, are immigrants from Gujarāt and speak a dialect of Gujarātī. It is said that their forefathers were induced to settle in Madura by Tirumala Naik. They claim to be Brāhmins and call themselves by Brāhmanical titles. The women and children are employed in the preliminary operations of preparing the thread and warp, and the men do the dyeing and the actual weaving. They make pure silk fabrics and cloths of mixed silk and cotton. The number of looms at work is about 2,000.

The Madura Mills Co., established in 1892, employs 1,760 hands daily in its steam cotton-spinning mill. The daily output of yarn in

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this averages 16,000 pounds. Of the raw material five-sixths is grown in India and one-sixth is imported from Egypt. A fine variety of yarn which is made here is dyed turkey-red and sold locally. The coarser counts are mainly exported to China if the rate of exchange of silver is favourable.

The two arts colleges in the District, the Madura Native College and the American Mission College, are both in Madura. The former has 69, and the latter 27, students reading in the higher classes. The Native College took the place of a former Government College and is now managed by a committee of native gentlemen presided over by the Collector. Its school department contains 925 pupils, and that of the Mission College 371. Other large educational institutions are the Setupati high school, now amalgamated with the Native high school, and the American Mission school. The Madura Technical Institute, maintained by the District board, gives instruction in drawing, carpentry and carving, and blacksmiths' and fitters' work, and in the manufacture of articles from aluminium and rattan. The number of pupils is 130 and the work turned out in 1903-04 was valued at Rs. 19,000. The technical schools of the District have altogether 245 pupils. A new municipal hospital is now being built. The Albert Victor Hospital belonging to the American Mission is an admirably equipped institution. The town also possesses a maternity hospital.

Manaar, Gulf of.—A portion of the Indian Ocean bounded on the west by the coast of the Tinnevely and Madura Districts in the Madras Presidency, on the north by the ridge of rock and islands known as ADAM'S BRIDGE and on the east by the coast of Ceylon. It lies between 8° and 9° N. and 78° and 80° E. Its extreme breadth from CAPE COMORIN, the southernmost point of India, to Point de Galle, the southernmost point of Ceylon, is about 200 miles. The gulf abounds in dangerous shoals and rocks at the northern extremity, and is exposed to the fury of both the monsoons, being quite open towards the south-west and only partially protected by the Ceylon coast on the north-east.

Melūr Town.—Head-quarters of the tāluk of that name in the Madura District of Madras, situated in 10° 2' N. and 78° 20' E. It is a Union with a population of 10,100 (1901), and stands on the main road between Madura and Trichinopoly. Since the extension of irrigation in the neighbourhood, by means of the PERIYAR PROJECT, the place has risen in wealth and importance as an agricultural centre. The American Mission have a station here.

Palk Strait.—Palk Bay is a gulf lying between the east coast of the Madras Presidency and the northern part of Ceylon in about 9° and 10° N. and 79° and 80° E. It was so named by the Dutch after one of their governors. The gulf is bounded by POINT CALIMERE and the coast of Tanjore to the northward and westward; by ADAM'S BRIDGE and the islands at either end of it to the south, and by the

northern part of Ceylon and the adjacent islands to the east. The Dutch recognised three channels leading between Point Calimere and the northern end of Ceylon into Palk Bay ; but probably only one of these can be considered safe for large ships. This is the Palk Strait. Shoals, currents, sunken rocks, coral reefs and sandy spits abound on either side and render the passage one of some difficulty and danger. The north-east monsoon often sweeps down the Strait into Palk Bay with great fury, and there is frequently a heavy and confused swell at the southern end near PAMBAN island. The effect of the south-west monsoon is, however, but little felt.

Palni Town.—Head-quarters of the tāluk of the same name in Madura District, Madras, situated in 10° 28' N. and 77° 31' E., 34 miles west of Dindigul, and 69 miles north-west of Madura. The population in 1901 was 17,168. The town was created a municipality in 1886, and the average total receipts and expenditure for the ten years ending 1902-03 were Rs. 14,300 and Rs. 13,800, respectively. In 1903-04 the income, most of which was derived from tolls and the taxes on houses and land, was Rs. 20,400 and the expenditure Rs. 20,000. The chief object of interest in the place is its ancient temple to Subrahmanya, which is resorted to by crowds of devotees from many parts of south India and especially from Malabar. The town at present suffers from lack of railway communication, but several schemes for remedying this are under consideration.

Pāmban.—The island of Pāmban is part of the RAMNAD ESTATE of the Madura District of the Madras Presidency. Its central point is in 9° 16' N. and 79° 18' E., and it lies between the mainland of the Madura District on the west and Ceylon on the east and is separated from the former only by the narrow passage or channel referred to later. To the north this opens into the waters of PALK STRAIT and on the south into the GULF OF MANAAR. The island is about eleven miles long by six wide. The eastern half is merely a narrow strip of sand which runs down to join ADAM'S BRIDGE, and the remainder is based on rock of coral formation and is chiefly covered by thorny acacias or swamp, there being little cultivation of any kind. The chief town is RAMESWARAM, noted for its great and ancient temple.

The town of Pāmban, which is said to derive its name from the tortuous, snake-like course of the above-mentioned channel, which it overlooks, is situated at the western extremity of the island in 9° 17' N. and 79° 14' E. and is one of the two largest seaports in Madura District. In 1901 its population was 3,462. Its lighthouse rises 97 feet above high-water mark and shows a light which is visible at a distance of twelve or fourteen miles. It is one of the chief points of departure of emigrants and other passengers to Ceylon and it also receives the numerous pilgrims who annually visit the shrine at Rāmeswaram. The Ceylon Government has an emigration depôt here. The number of passengers and pilgrims who arrive at it has increased

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considerably since the opening of the railway from Madura to Mandapam, on the mainland opposite the channel. The inhabitants of the town are chiefly engaged as sailors, pilots and divers or in other sea-faring pursuits. Its climate is considerably cooler than that of the mainland and the town was formerly used as a health-resort by European officials. The ruins of a Dutch fort are still to be seen in it.

Pāmban passage or channel is a partly artificial channel which runs between the western extremity of Pāmban island and the mainland of India and connects Palk Strait and the Gulf of Manaar. It was deepened by the Government to allow sea-going ships to pass along by this quicker and more sheltered route instead of having to go round the east coast of Ceylon. Geological evidence tends to show that in former times the gap was bridged by a continuous isthmus, and until it was deepened the passage was quite impracticable for ships, being obstructed by two parallel ridges of rock reaching just above high-water mark and about 140 yards apart, the space between which was occupied by a confused mass of rocks lying for the most part parallel to the ridges and in horizontal strata of sandstone formation. The first proposal to deepen this channel for traffic was made by Colonel Manuel Martinez, who brought the matter to the notice of Mr. Lushington, Collector of the Southern Provinces and afterwards Governor of Fort St. George. Nothing, however, was done until 1822, when Colonel De Haviland recommended the institution of a regular survey, which was entrusted to Ensign (afterwards Sir Arthur) Cotton, whose name is so honourably associated with other great engineering projects in southern India. Cotton's opinion was favourable; but other matters diverted the attention of Government until 1828, when Major Sim was instructed to undertake experiments in blasting and removing the rocks. His reports will be found at length in the *Journal of the Royal Geographical Society* (Vol. IV). The first scientific marine survey of the channel was conducted in 1837 by Lieutenants Powell and Ethersey of the Indian Navy assisted by Lieutenants Grieve and Christopher. The charts made on this occasion still remain the standard authority. Operations for deepening and widening the channel were begun in 1838 and continued for many years. It is now about 80 feet wide, 14 feet deep as a minimum and 4,232 feet in length, and is used to a large extent by coasting vessels. Navigation through it requires care, as the current is sometimes very strong.

It has now come to be recognised that if ocean steamers are ever destined to run north of the island of Ceylon, the best route will be a ship canal across the island of Pāmban. It has been already mentioned that the Madura-Pāmban Railway has been carried as far as the point on the mainland which faces Pāmban town. Proposals are now under consideration to bridge the channel and to carry the railway across it to Rāmeswaram; to cut a canal through Pāmban

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island large enough to take sea-going ships; to establish a ship-basin in one part of this canal and connect it with the railway; and eventually to continue the railway across Adam's Bridge to Ceylon. Details of these schemes have not yet been worked out, but it is anticipated that the completion of the first part of them would result in the creation of a port on the island which would attract much shipping, since the new route would afford a much shorter passage between the southern extremity of the Indian Peninsula and the ports along the north-east coast than the present voyage round the eastern coast of Ceylon, Pāmban island would form a natural break-water which would enable large ships to anchor in still water during either monsoon, to the north when the south-west wind was blowing and to the south during the north-east current. There is six fathoms of water close to the shore of the island both on the north and the south of it.

Paramagudi Town.—Town in the Paramagudi tahsil of the RAMNAD ZAMINDARI in the Madura District, Madras, situated in $9^{\circ} 32' N.$ and $78^{\circ} 36' E.$ The population was 16,134 in 1901 and is rapidly growing. It stands on the south bank of the VAIGAI river on the road from Rāmnād to Madura and is one of the more important stations on the railway between these two places. It is the headquarters of a deputy tahsildār and of a District Munsiff. The chief industry is the weaving of silk cloths. Hand-painted chintzes used to be made formerly, but the industry is now dead.

Periyakulam Town.—Head-quarters of the tāluk of the same name in the Madura District of Madras, situated in $10^{\circ} 7' N.$ and $77^{\circ} 33' E.$, on the banks of the Varāhanadī about 45 miles west of Madura town and 35 miles south-west of Dindigul. Its population in 1901 was 17,960. The town was created a municipality in 1886 and the average total receipts and expenditure for the ten years ending 1902-03 were Rs. 15,600 and Rs. 15,400, respectively. In 1903-04 the income, most of which was derived from tolls and the taxes on land and houses, was Rs. 19,800 and the expenditure Rs. 20,500. A scheme for supplying it with water has been prepared and is under consideration. The town is an important centre for the trade of the Kambam valley and, being distant only five miles from the foot of the ghāt by which the ascent is made to KODAIKANAL, has a considerable trade in grain and fruit with that place and the adjoining hill villages.

Periyār Project, The.—The Periyār (big river) is a river which rises on the western side of the range of the WESTERN GHATS and flows down to the Arabian Sea through the Native State of Travancore. The area through which it passes is within the zone of the heaviest rainfall in the south of India, and the crops there are grown by the aid of rain alone and without irrigation. Consequently the water of the Periyār for many centuries ran uselessly to the sea. The great project to which the river gives its name consists in the construction of a huge masonry dam across the upper waters of the

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river, in Travancore territory, forming a great lake, and taking the water of this lake through a tunnel in the Western Ghāts across to the opposite, or eastern, slope of that range to supply the arid areas which lie immediately below it on that side. In short, a great river which formerly ran down one side of a mountain range has been bidden to turn back and flow down the other side of it. The lake has an area of 8,000 acres and lies in Travancore territory. The land has been rented from that State for Rs. 40,000 per annum. The height of the dam, which is situated in $9^{\circ} 32' N.$ and $77^{\circ} 7' E.$, is 173 feet, and it is made of solid masonry throughout. The tunnel through the Ghāts is 5,704 feet long, and the open cutting or debouchure on the northern side which leads to it from the lake adds 500 feet to its length. The tunnel proper has an entrance sluice 12 feet wide by $7\frac{1}{2}$ feet high and a gradient of 1 in 75, and is drilled through tough granite. The bed of the Vaigai river is utilised for some distance to carry the water to places where it is wanted, and the scheme includes in addition 36 miles of main canal and 190 of distributaries. Up to 1904 the total capital cost of the project had been 92 lakhs of rupees.

The scheme was suggested as early as the beginning of last century, but was at first thought to be chimerical. It was revived in 1862, but it was not until 1882 that a beginning was seriously made with the preparation of estimates for the project. The success of the work was mainly due to the efforts of Colonel Pennycuik, R.E., C.I.E., Chief Engineer to the Madras Government. It was carried to completion in the face of enormous difficulties, the country being entirely uninhabited and most inaccessible, the climate infected with deadly malaria, the difficulty of getting labour and transport immense; and many of the technical problems involved in the work being of an entirely new description. The foundations of the dam were carried away time after time before they had proceeded sufficiently to be out of the reach of floods, and unforeseen difficulties and trials had constantly to be met and overcome. The official *History* of the Project, by Mr. A. T. Mackenzie, one of the staff of engineers who carried it to completion, gives a full account of the undertaking and the manner in which it was effected.

It is too soon as yet to judge of the financial result of the Project, as the whole of the land commanded by it has not yet been prepared for wet cultivation by the ryots and so cannot be all supplied with its water. At the end of 1903-04 the total area of land irrigated by it, including second-crop cultivation, was 142,000 acres and the net revenue from this Rs. 3,55,000, giving a profit on the capital outlay of 3.86 per cent. The total culturable area commanded by the main canal and its twelve branches is 121,000 acres, including land of all classes. The supply available is probably sufficient only for about 111,000 acres, and the most important project which now remains is concerned with the extension of the system by forming a second reservoir in which to store the surplus water which now runs to waste.

Rāmeswaram.—A town situated in $9^{\circ} 17' N.$ and $79^{\circ} 19' E.$ on the island of PAMBAN in the Madura District of Madras. Population 6,632 (1901). It contains one of the most venerated Hindu shrines in India, which was founded, according to tradition, by Rāma himself as a thank-offering for his success in his expedition against Rāvana, the ten-headed king of Ceylon, who had carried off his wife. For centuries the temple has been the resort of thousands of pilgrims from all parts of India; and until recently these people had to traverse on foot the inhospitable wastes of the RAMNAD ESTATE which separated it from the nearest railway station, that at Madura, to attain the end of their religious desire. The pilgrimage is now rendered easy by the railway which has lately been built from that place to Mandapam, a point on the mainland facing the town of Pāmban, eight miles from Rāmeswaram. The great temple stands on slightly rising ground in the north-eastern part of the island, is in the form of a quadrangular enclosure 650 feet broad by about 1,000 feet long, and is entered by a gateway surmounted by a *gopuram* or tower 100 feet high. The oldest portion is built of a dark and hard limestone, traditionally said to have been quarried in Ceylon, while the more modern parts are constructed of a friable sandstone quarried in the island itself. The inner *prākāram* or corridor is ascribed to the piety of an early Madura Naik, while the outer *mantapam* was the work of two of the Rāmnād chiefs or Setupatis, with the history of whose line, as the lords of the causeway leading from the mainland to Pāmban island and the protectors of the pilgrims, the whole history of the temple has for centuries been intimately connected.

Mr. Fergusson in his *History of Indian Architecture* thus describes the building:—"If it were proposed to select one temple which should exhibit all the beauties of the Dravidian style in their greatest perfection and at the same time exemplify all its characteristic defects of design, the choice would almost invariably fall upon that at Rāmeswaram. In no other temple has the same amount of patient industry been exhibited as here; and in none unfortunately has that labour been so thrown away for want of a design appropriate to its display. It is not that this temple has grown by successive increments; it was begun and finished on a previously settled plan, as regularly and undeviatingly carried out as at Tanjore, but on a principle so diametrically opposed to it that, while the temple at Tanjore produces an effect greater than is due to its mass or detail, this one, with double its dimensions, and ten times its elaboration, produces no effect externally, and internally, can only be seen in detail, so that the parts hardly in any instance aid one another in producing the effect aimed at.

"Externally, the temple is enclosed by a wall 20 feet in height with four *gopuras*, one on each face, which have this peculiarity, that they alone, of all those I know in India, are built wholly of stone from the base to the summit. The western one alone, however, is

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finished. Those on the north and south are hardly higher than the wall in which they stand, and are consequently called the ruined gateways. Partly from their form, but more from the solidity of their construction, nothing but an earthquake could well damage them. They have never been raised higher, and their progress was probably stopped in the beginning of the last century, when Muhammadans, Marāthās, and other foreign invaders checked the prosperity of the land, and destroyed the wealth of the priesthood. The eastern façade has two entrances and two *gopuras*. The glory of the temple, however, is in its corridors. These extend to a total length of nearly 4,000 feet. Their breadth varies from 20 feet to 30 feet of free floor space, and their height is apparently about 30 feet from the floor to the centre of the roof. Each pillar or pier is compound, and richer and more elaborate in design than those of the Pārvatī porch at Chidambaram, and certainly more modern in date.

"None of our English cathedrals are more than 500 feet long, and even the nave of St. Peter's is only 600 feet from the door to the apse. Here the side corridors are 700 feet long, and open into transverse galleries as rich in detail as themselves. These, with the varied devices and modes of lighting, produce an effect that is not equalled certainly anywhere in India. The side corridors are generally free from figure sculpture, and consequently free from much of the vulgarity of the age to which they belong, and, though narrower, produce a more pleasing effect. The central corridor leading from the sanctuary is adorned on one side by portraits of the Rājās of Rāmnād in the 17th century, and, opposite them, of their secretaries. Even they, however, would be tolerable, were it not that within the last few years they have been painted with a vulgarity that is inconceivable on the part of the descendants of those who built this fane. Not only these, but the whole of the architecture, has first been dosed with repeated coats of whitewash, so as to take off all the sharpness of detail, and then painted with blue, green, red, and yellow washes, so as to disfigure and destroy its effect to an extent that must be seen to be believed.

"The age of this temple is hardly doubtful. From first to last its style, excepting the old *vimāna*, is so uniform and unaltered, that its erection could hardly have lasted during a hundred years; and if this is so, it must have been during the 17th century, when the Rāmnād Rājās were at the height of their independence and prosperity, and when their ally or master, Tirumala Naik, was erecting buildings in the same identical style at Madura. It may have been commenced fifty years earlier (1550), and the erection of its *gopuras* may have extended into the 18th century, but these seem the possible limits of deviation."

Rāmnād Town (*Rāmanātha-puram*, the town of Rāmanātha).—The chief town of the sub-division, zamīndāri and tahsīl of the same name in the Madura District, Madras, situated in 9° 22' N. and 78° 51' E. It is a station on the Madura-Pāmban Railway and its

population in 1901 was 14,546. The town is the head-quarters of the Divisional officer and of an Assistant Superintendent of Police and contains a Protestant church belonging to the Society for the Propagation of the Gospel, and two Roman Catholic places of worship. It is also the residence of the Rājās of Rāmnād, whose palace, a large rambling building, stands at the end of its chief street. It lies in the midst of ugly and uninteresting country and its redeeming point is its climate, which is never very hot and is generally tempered by a breeze from the sea. The town was taken by General Smith in 1772 and was under military occupation in 1792. The fortifications, now destroyed, consisted of a wall 27 feet high and 5 feet thick surrounded by a fosse. In the centre was the palace of the chiefs.

Sivaganga Town.—Chief town of the tahsīl and zamīndāri of the same name in the Madura District of Madras, situated about ten miles from Mānāmadurai, which is a station on the South Indian Railway, in $9^{\circ} 51' N.$ and $78^{\circ} 30' E.$ The population in 1901 was 9,097 and it is a Union and the station of a deputy tahsīldār. Brass fancy articles, especially excellent figures of lizards, scorpions, and the like, are manufactured here. The town is a pleasant place, and in its fertile red soil grow most of the trees and plants of the eastern coast. It contains the palace of the zamīndārs of Sivaganga, and is the head-quarters of the European lessees who now have possession of their estate.

Tirumangalam Town.—Head-quarters of the tāluk of the same name in the Madura District, Madras, situated in $9^{\circ} 50' N.$ and $77^{\circ} 59' E.$, about twelve miles south of Madura, on the main line of the South Indian Railway. Population 8,894 (1901). The town is said to owe its origin to an early Vellāla colony dating from 1566. It is noted for its dyed cloths and contains a cotton-ginning factory. The air of the place is considered by the natives to be particularly favourable to the recovery of persons suffering from asthma.

Tiruppattūr Town.—The head-quarters of the tahsīl of that name in the Rāmnād sub-division of the Madura District, Madras, situated in $10^{\circ} 7' N.$ and $78^{\circ} 37' E.$ Its population in 1901 was 5,881. Except that it was once the residence of a small local chieftain and is now the head-quarters of the deputy tahsīldār, it is a place of no particular interest.

Uttamapālaiyam.—A town in Periyakulam tāluk, Madura District, Madras, situated about 24 miles south-west of Periyakulam on the Suruli river, in $9^{\circ} 49' N.$ and $77^{\circ} 20' E.$ The population in 1901 was 10,009. It was formerly the head-quarters of one of the ancient *pālaiyams* or feudal estates of Madura. Since the advent of the water of the PERIYAR PROJECT the place has risen in importance, being the first large town which is benefited thereby. It is the head-quarters of a deputy tahsīldār.

TINNEVELLY DISTRICT.

Tinnevelly District (*Tirunelveli*).—A District of the Madras Presidency which occupies the eastern half of the extreme southern end of the Indian Peninsula. It lies between 8° 9' and 9° 43' N. and 77° 12' and 78° 23' E. and has an area of 5,389 square miles, with an extreme length of 120 miles from north to south and a maximum width of 75 miles near the Madura frontier. In shape it is roughly triangular, having the WESTERN GHATS as its western, and the sea as its eastern and southern, boundary. On the north it is separated from the Madura District by no natural features but roughly by a parallel drawn east and west through the town of VIRUDUPATTI.

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DISTRICT.

Bounda-
ries, con-
figuration
and hill
and river
systems.

The southernmost hills of the Western Ghāts serve as a natural barrier between the west side of this District and Travancore State up to within a few miles of CAPE COMORIN, the extreme southern point of the Indian Peninsula. These hills vary from 3,000 to 5,000 feet in height and are clothed with heavy forest. AGASTYAMALAI, half in Tinnevelly and half in Travancore, is their highest peak and rises to 6,108 feet; it was formerly an important astronomical station. Mahendragiri, another peak 14 miles from NANGUNERI, is 5,370 feet high and is reputed to be the hill from which the monkey-god Hanumān jumped to Lanka (Ceylon) when he went there to gather news of Sita, the wife of Rāma, whom Ravana, the king of Ceylon, had carried off.

From the base of the Ghāts, where the country is nowhere higher than about 750 feet, the District slopes down eastward to the sea. Besides the Ghāts there is no range in it worth the name except the Vallanād hills in the Srīvaikuntam taluk, which rise abruptly from the surrounding plain to a height of over 1,000 feet and form a pleasing contrast to the level ground around them. Along the base of the Ghāts is a belt from ten to twenty miles wide of red loam and red sand, and fringing the sea is a strip of sandy soil from three to fifteen

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miles in breadth. These two tracts widen out and overlap one another as they go southward, and occupy the whole of the country to the south of TINNEVELLY town. Between them, to the north, the intervening space is occupied by broad plains of black cotton soil.

All the rivers of the District have their sources in the Ghâts and run eastwards to the sea. The TAMBAPARNI, the most important of them, rises on the southern slope of the Agastyamalai peak and, after a south-easterly course of seventy miles, empties itself into the GULF OF MANAAR. The Chittâr, a much smaller stream, drains the mountains on the western border of the Tenkâsi taluk and joins the Tâmbraparni a few miles north-east of Tinnevelly town. The Vaippâr, which rises in the Sankaranayinârkovil hills, though a stream of considerable size, does not contribute much to the prosperity of the District as its supply is too sudden and occasional to be of use in irrigation.

Botany.

The District comprises tracts of wide differences in rainfall and elevation and its flora is consequently varied. Along the sea-shore are salt swamps and the red sand wastes known locally as *teris*, and the plants of these differ widely from those of the central plain, which resemble those of the rest of the similar tracts on the east coast. The varying levels of the Ghâts have each their own distinctive flora, the most interesting, perhaps, being those of the heavy evergreen forest. The characteristic tree of the plains is the palmyra palm, which covers wide areas to the exclusion of all other trees and is a notable factor in the economic condition of the country.

Geology.

The geological basis of the District is a continuation of the gneiss rock of which the mountains on the west consist. In the plains this is largely covered by more recent formations, but protrudes through them in isolated patches or rounded and often conical masses, some of which supply excellent stone for building and road-making purposes. Of the strata which overlie the gneiss rock the principal are, first, a quartz, having a considerable percentage of iron, and appearing through the soil in the pale red ridges which are such conspicuous objects in all the taluks bordering the Ghâts; secondly, a nodular limestone or *kankar* underlying a poor stony soil, which is chiefly found in the central portion of the District; and, thirdly, sandstone alternating with claystone, which forms a coast

series and follows the line of the shore at a distance of about ten miles from it. This last originally formed a nearly continuous ridge rising to about 300 feet, and through this the rivers descending from the Ghâts have forced their way down to the sea. Round about it lie the *teri* tracts, the surface of which is entirely of blown sand, and which are one of the most peculiar natural features of the District. In the north, the rock which underlies the plains is covered by a wide spread of black cotton soil extending from the Madura boundary southward for about 60 miles and having an average breadth of 40 miles. Lastly we have the river alluvium, which forms a narrow but extremely rich strip on either side of the Tâmbraparni and Chittâr rivers.

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On the plains of the District there is little in the way of larger game, only antelope and occasional leopards being generally met with, but on the Ghâts occur the wild animals usual to heavy forest of high elevation. The rare Nilgiri ibex is found in several localities along this range.

Fauna.

The principal characteristics of the climate of Tinnevely are light rainfall and an equable temperature. In the hot months, from March to June, the thermometer rarely rises beyond 95° in the shade; in the coolest December and January, it is seldom lower than 77°. The mean temperature of Tinnevely town is 85°, which is the highest figure in the Presidency. This unenviable position is, however, attained less by the heat of its hot weather than by the absence of any really cold season. From June onwards, as long as the south-west monsoon lasts, the heat in the tracts lying at the foot of the Ghâts is sensibly diminished by the winds and slight showers which find their way through the various gaps and passes in that range.

Climate
and tem-
perature.

The rainfall is greatest near the hills and least on the eastern side of the District. In Tenkāsi and Ambāsamudram the maximum fall is nearly 60 inches, while the minimum is about 20 inches. In other parts of the District the supply varies from between 40 and 50 inches as a maximum to between 10 and 15 inches as the minimum. The average annual amount received in the District as a whole is about 25 inches, which is one of the lowest figures in all the Presidency. But though its rainfall is scanty, Tinnevely gets the benefit of both the monsoons, as both cause freshes in the Tâmbraparni. These, indeed, occasionally rise very high and do considerable damage.

Rainfall.

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History
and ar-
chæology.

Until the 18th century the history of Tinnevelly is almost identical with that of the Madura District sketched in the separate article on this latter. The capital of the first rulers of Madura, the PANDYAS, is reputed to have been at one time within the Tinnevelly District at KOLKAI near the mouth of the Tāmbraparni. Tirumala Naik, the most famous of the Naik dynasty of Madura, built himself a small palace at SRIVILLI-PUTTUR in the north-west corner of the District.

In 1743, when the Nizām-ul-mulk, the Sūbahdār of the Deccan, turned the Marāthās out of the south, Tinnevelly passed under the nominal rule of the Nawābs of ARCOT. All actual authority, however, lay in the hands of a number of independent military chiefs called poligārs, who were originally feudal barons appointed by the Naik kings but on the fall of that dynasty had assumed wider powers. They had forts in the hills and in the dense jungle with which the District was covered, maintained about 30,000 brave (though undisciplined) troops, and were continually fighting each other or in revolt against the paramount power. An expedition under Major Heron and Mahfūz Khān in 1755 reduced Tinnevelly to some sort of order and the country was rented to the latter. But he was unable to control the poligārs, who formed themselves into a league for the conquest of Madura and advanced against him. They were however signally defeated at a battle seven miles north of Tinnevelly. But the utter failure of Mahfūz's government induced the English to send an expedition under Muhammad Yūsuf, their sepoy commandant, to help him. This man eventually became renter of Tinnevelly but rebelled in 1763 and was taken and hanged in the following year. Thenceforth the troops in Tinnevelly were commanded by British Officers while the country was administered, on behalf of the Nawāb, by native officials. As this system of divided responsibility was not conducive to the general pacification of the country, the Nawāb was induced, in 1781, to assign the revenues to the East India Company, and civil officers, called Superintendents of Assigned Revenue, were appointed for its administration. The English, however, were at that time too busy with the wars with Haidar Ali to be able to pacify the country thoroughly, and the poligārs continued to be powerful. Encouraged by the Dutch, who had expelled the Portuguese from the Tinnevelly coast in 1658, obtained possession of the pearl fishery, and established a lucrative trade, they were soon

again in open rebellion. In 1783 Col. Fullarton reduced the stronghold at PANJALAMKURICHI, near Ottappidaram, of Kattabomma Naik, the most obstreperous of them. In 1797 the poligars, headed by Kattabomma, again gave trouble, joining a rebellion which broke out in the RAMNAD territory. In 1799 Seringapatam fell and the Company's troops were at last free to move. A force was sent to Tinnevelly under Major Bannerman to compel obedience and the first Poligār war followed. Pān-jalamkurichi was taken, its poligār hanged, and the estates of his allies confiscated. Some of the poligars, notably the chief of ETTAIYAPURAM, helped the English. Two years later, some dangerous characters who had been confined in the fort at PALAMCOTTAH broke loose and raised another rebellion. The operations which followed are known as the second Poligār war. Pān-jalamkurichi fell after a most stubborn resistance, the fort was destroyed, and the site of the place was ploughed over. The ringleaders of the rebellion were hanged, others who had assisted in it were transported, and the possession of arms was prohibited.

When Seringapatam fell, treasonable correspondence between Tipū Sultān and the Nawāb of Arcot was discovered, and as a consequence the Company in 1801 assumed the government of the whole of the CARNATIC under a treaty with the Nawāb, making him a pecuniary allowance. Tinnevelly thus came absolutely into English hands and from that date its history has been peaceful.

As the reputed seat of the earliest Dravidian civilisation, the District possesses much antiquarian interest. The most noteworthy archæological remains are the sepulchral urns found buried in the sides of the red gravel hills which abound in different parts of the District. Those at ADICHANALLUR, three miles from SRIVAİKUNTAM, the most interesting prehistoric burial place in all southern India, are noticed in the separate article on that place. KOLKAI and KAYAL, near the mouth of the Tambraparni, were the capitals of a later race, but nothing now remains to mark their ancient glory. Some of the temples in the District, especially those at Tiruchendūr, Alvār Tirunagari, Srīvaikuntam, Tinnevelly, Nānguneri, Srīvilliputtūr, Tenkāsi, Papanāsam, Kalugumalai and Kuttālam, deserve special mention. Ancient Roman coins are not uncommon in Tinnevelly

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DISTRICT.

The peo-
ple.

and those of the old Pāndyan kings are numerous. Some Venetian gold ducats have also been unearthed in the District.

The District contains 29 towns, or more than any other in the Presidency, and 1,482 villages. It is made up of the nine tāluks of Ambāsamudram, Nānguneri, Ottappidāram, Sankarānāyīnārkovīl, Sāttūr, Srīvaikuntam, Srīvilliputtūr, Tenkāsi and Tinnevelly, statistical particulars of which, according to the census of 1901, are subjoined :—

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Sāttūr ..	560	3	206	186,694	333	+ 1·3	17,635
Srīvilliputtūr ..	585	4	94	205,745	352	+ 8·0	14,463
Tinnevelly ..	328	2	123	194,647	593	+ 5·4	27,632
Sankarānāyīnārkovīl ..	717	2	123	232,980	325	+ 9·0	16,584
Ottappidāram ..	1,072	2	394	358,568	334	+ 4·8	36,980
Srīvaikuntam ..	542	7	134	321,534	593	+ 11·8	40,338
Ambāsamudram ..	481	4	85	182,481	379	— 0·6	19,986
Tenkāsi ..	374	3	92	174,430	466	+ 12·6	14,755
Nānguneri ..	730	2	231	202,528	277	+ 16·1	16,459
District Total ..	5,389	29	1,482	2,059,607	382	+ 7·5	204,832

The head-quarters of these are at the places from which they are respectively named. The population of the District in 1871 was 1,693,959; in 1881, 1,699,747; in 1891, 1,916,095; and in 1901, 2,059,607. The last of these figures was made up of 1,798,519 Hindus, 101,875 Musalmāns and 159,213 Christians. Between 1871 and 1881, owing to the famine of 1876-78, the population was almost stationary. In the next ten years the rate of advance was probably slightly abnormal owing to the usual rebound after scarcity; and in the decade 1891-1901 the increase was about equal to that in the Presidency as a whole. Emigration from the District was however considerable during that period. Few people move into it and the proportion of its inhabitants who were born within it was higher in 1901 than in any of the southern Districts. In density of population, it is above the average for these Districts; Tinnevelly and Srīvaikuntam tāluks support nearly 600 people to the square mile. Between 1891 and 1901 the population of Ambāsamudram tāluk declined, while in the adjoining area of Nānguneri it advanced

abnormally. The reason for this was that in the former year the paddy harvest in Ambāsamudram, which always attracts coolies from Nānguneri, was going on at the time of the census.

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The District contains more towns and a larger urban population than any other in the Presidency. About 23 per cent. of the people live in towns, which is more than twice the proportion obtaining in the Province as a whole. These places however are not large cities. None of them contains more than 50,000 inhabitants and only five out of the 29 possess more than 25,000. These five are the four municipalities of Tinnevely (population 40,469), Palamcottah, the head-quarters of the District (39,545), Tuticorin (28,048) and Srivilliputtūr (26,382), and the large Union of Rājapālaiyam (25,360). Sixteen other Unions have a population of more than 10,000 each. The growth of these towns during the decade 1891-1901 was remarkable. The population of both the municipalities and the unions advanced in the aggregate by nearly one-half. In some cases the increase is partly due to the extension of the official limits of the towns to include suburbs, but such extensions would not have been made unless these suburbs had advanced in populousness and urban characteristics and the statistics are therefore signs of real growth.

Tamil is the prevailing vernacular, being spoken by 86 per cent. of the people, but Telugu is the parent tongue of 13 per cent. of them, and is spoken by more than one-fifth of the inhabitants of Ottappidāram and Srivilliputtūr taluks and by nearly a third of those of Sāttūr.

The majority of the Musalmāns of the District are Labbai traders. Christians are proportionately more numerous (8 per cent. of the population) than anywhere else except in the Nilgiris. They have however increased more slowly during the last twenty years than the population as a whole.

Their
castes and
occupa-
tions.

The great majority of the Hindus are Tamils. The three most numerous castes are the Shānāns (294,000), the Pallans (234,000), and the Maravans (211,000), all of whom are found in greater numbers in Tinnevely than in any other District. The first of these are really even in greater strength than the figures show, as at the 1901 census some thousands of them entered themselves as Kshattriyas, to which aristocratic body they have in recent years claimed to belong. There can be little doubt that, though large numbers of them now subsist by agriculture

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and trade, they originally followed the despised calling of toddy-drawing, and in consequence of this the claims to be Kshattriyas and to enter Hindu temples which they have of late years put forward with much tenacity caused great resentment among the other Hindus of the District, which finally culminated in the Tinnevelly Riots of 1899 referred to below. Their chief opponents in these disturbances were the Maravans, a community of cultivators who are practically confined to Madura and Tinnevelly and have a reputation for truculence. With the Kallans they gave much trouble to the British during the Poligār wars and they still have an unenviable name for their expertness in dacoity and cattle-lifting. In 1899 it was calculated that though the Maravans formed only ten per cent. of the population of the District, they were responsible for 70 per cent. of the dacoities which had occurred within it in the previous five years.

Larger numbers than usual of the population of Tinnevelly live by toddy-drawing and selling, weaving, rice-pounding and goldsmiths' work, so that the percentage of agriculturists is less than in most Districts. As many as two-thirds of the people, nevertheless, live by the land.

Christian
missions.

Of the total Christian population (1901) of 159,213, 158,809 were natives of India. These belong in about equal numbers to the Roman Catholic Church and the various Anglican denominations. Christian missions have existed in Tinnevelly for upwards of three centuries. The history of the Roman Catholic Church in the District dates from 1532, when Michael Vaz, afterwards Archbishop of Goa, with a Portuguese force assisted the Paravans (fishermen) along the coast of Tinnevelly against the Musalmāns and subsequently baptized almost the entire caste, or about 20,000 souls. In 1542 St. Francis Xavier commenced his labours among these converts. Not much is known of the subsequent history of the mission till about 1710, which is the probable date of the commencement of the labours of Father Beschi, the celebrated Tamil scholar and author of the religious epic *Tenlāvani*. Tinnevelly was always attached to the famous Madura mission and much progress was made until the suppression of the Society of Jesus in 1773 by Pope Clement XIV, when matters languished and were only again revived in 1838 under French Jesuits. Tuticorin is the largest centre of the mission and contains three fine churches and many thousands of

Christians. The mission has two high schools and more than 100 village schools, besides three convents of Indian nuns and three large orphanages.

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Protestant missions in Tinnevely began with the visit of the famous Swartz to Palamcottah in 1780. The congregation in those early days consisted of only 39 persons. In 1797 began the movement towards Christianity among the Shanāns of the District which is going on at the present day and which has done much to raise the people of that caste in many ways. At present about 76,000 Christians are connected with the three missions of the Church of England, the Society for the Propagation of the Gospel and the Church Missionary Society. Including some fifteen European ladies, about 35 missionaries are working for these bodies. They maintain 750 village schools with more than 25,000 pupils. They also keep up a second-grade college for boys and another (the Sarah Tucker College) for girls, four high schools for boys and two for girls, four normal (training) schools, an art industrial school and two schools for the blind and the deaf. Eight hospitals are also maintained by them for the treatment of the sick of all classes.

General
agricul-
tural con-
ditions.

Broadly speaking, the northern half of the District consists of black loam, with a strip of red soil along the foot of the hills south of Srivilliputtūr, and the southern half of red loam or sand with a strip of black loam in the valley of the Tāmbra-
parni. The black cotton soil plain in the north is a deep deposit, overlying a substratum of rock. There is but little irrigation in it except in parts of Srivilliputtūr. The black soils of the valley of the Tāmbra-parni overlie a stiff yellow clay or marl which effectually prevents soakage, and by keeping the water, vegetable matter and manure in suspension near the surface is no doubt the cause of the excessive fertility of that valley. Much of the high-lying red soil is poor, but in the hollows and along the course of the streams the ground is more fertile. In the south-east lies a tract of country about 40 miles in length known as the palmyra forest, where the soil is a deep red loam with a surface of sand. In a few well-protected flats the sand merely covers the sub-soil, but in open country it is several feet deep and is in some places blown up into hills 20 feet high. Even where the sand is deepest, the underlying loam, which is present everywhere, causes palmyras to flourish in hundreds of thousands.

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DISTRICT.

Chiefagri-
cultural
statistics
and prin-
cipal crops.

The prevailing land tenure in the District is ryotwāri, but at the same time there are a number of zamīndāris within it. Its total area is 5,389 square miles, but detailed agricultural particulars for the zamīndāris are not on record and the area for which accounts are kept is only 3,985 square miles. Statistics of this area for 1903-04 are appended :—

Tāluk.	Area shown in accounts.	Forests.	Cultura- ble waste.	Cultivated.	Irri- gated.
Sāttūr ..	360	..	9	314	22
Srīvilliputtūr ..	531	73	31	307	80
Tinnevelly ..	318	8	6	245	55
Sankaranayinārkovil ..	464	42	4	298	50
Ottappidāram ..	373	6	7	314	18
Srīvaikuntam ..	532	32	10	392	76
Ambāsamudram ..	473	145	1	200	54
Tenkāsi ..	207	43	2	141	39
Nānguneri ..	727	88	11	473	68
District Total ..	3,985	437	81	2,684	462

The staple food-grains are paddy, *cholum*, *cambu* and *rāgi*, of which paddy is cultivated on 467 square miles, or 22 per cent. of the area cropped. *Cambu* comes next and is raised on 195 square miles, while *cholum* and *rāgi* occupy 134 and 71 square miles respectively. Paddy is grown on only a comparatively small area in the north-eastern tāluks of Sāttūr and Ottappidāram. *Cambu* is rarely sown in Ambāsamudram and not often in Tenkāsi, but elsewhere its cultivation is general and in Sāttūr and Ottappidāram widespread. *Cholum* and *rāgi* are for the most part grown in Sankaranayinārkovil, Nānguneri and Srīvilliputtūr. Of the pulses, which are found mainly in the southern and south-western tāluks, horse-gram is the most important. Nānguneri contributes most largely to the total area under this class of grain. Cotton is the principal industrial crop, and Tinnevelly is one of the leading cotton-growing areas in the Presidency. The crop was raised on 365 square miles in 1903-04. Senna, for which the District was once famous, is still cultivated in the Tinnevelly tāluk. Gingelly is of importance in all tāluks except Sāttūr and Ottappidāram. The cultivation of the palmyra palm and the gathering and preparation of its products, especially toddy, form one of the most important industries in the District. Thousands of people are entirely dependent on this tree for their livelihood.

The ryots of the District are generally energetic and industrious, those in the northern taluks, owing probably to the less favourable conditions prevailing there, being more so than their brethren in the south. The advantages of good manure, rotation of crops, etc., are well understood, but no attempt has been made to depart from the old ways either by introducing new and improved implements or by raising other than the usual varieties of crops. An experimental farm has recently been started at KOILPATTI, in the centre of the northern half of the District, to attempt to popularise the cultivation of better varieties of *cholan*, *rāgi*, etc., by improved methods, but it is too early yet to say how far it will induce the people to move out of the beaten track. The ryots are very slow in taking advantage of the provisions of the Land Improvement Loans Act, only Rs. 29,000 having been advanced under it in the past sixteen years. Well-sinking is the only work for which loans are sought.

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DISTRICT.

Improve-
ments in
agricul-
tural
practice.

There is little or no systematic cattle-breeding in the District. The usual nondescript animals kept by the ryots are allowed to multiply without restriction or selection. Large cattle-fairs are held in various parts of the District, notably at Sivalaperi, Kanniseri, Kalugumalai and Muttalapuram. The animals raised in Rājapālaiyam and Sivagiri are said to be comparatively superior, owing, probably, to the good pasture available at the foot of the adjoining hills. Ponies of small size are bred in the eastern parts of Srīvaikuntam taluk and are largely used for drawing the *jathkas*, or springed hackney carriages which are used by the natives all over the District. There are no noteworthy breeds of sheep or goats.

Cattle,
ponies
and
sheep.

Of the area cultivated in 1903-04, 462 square miles were irrigated from various sources. Most of this (267 square miles) was watered from about 2,300 tanks (artificial reservoirs) and a considerable portion (120 square miles) from 52,000 wells. Nearly all the remainder was supplied from Government canals, chiefly those which take off from the Tāmbraparni. These water the major portion of the wet (irrigated) land in the Amlāsamudram, Tinnevely and Srīvaikuntam taluks and are referred to in the separate article on that river. The Tenkāsi taluk and parts of Tinnevely are fed by the Chittār. Nāngumeri is irrigated mainly by tanks, some of which are very large, supplied by streams from the hills. The north-western taluks of Sankara-

Irrigation.

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nayinārkovil and Srīvilliputtūr depend mainly on the north-east monsoon, and in them irrigation is almost entirely from tanks fed by jungle streams the supply in which is generally precarious except in favourable years. The black cotton soil taluks of Sattūr and Ottappidāram contain very little wet cultivation. In the sandy portions of Srīvaikuntam and Nānguneri water can be easily obtained by sinking shallow holes in the ground, but well-sinking in the black cotton soil is a costly matter.

Forests.

The only real forests in Tinnevelly are those which clothe the Ghāts on the western border of the District. The approximate area of these is about 520 square miles, of which more than two-thirds is Government reserved forest while the rest belongs to the zamindārs of Singampatti, SETTUR and SIVAGIRI. Small timber of good quality such as teak, *vengai* (*Pterocarpus Marsupium*), etc., is found on the sides of the hills. Owing to their value in protecting the head waters of the rivers and streams, the evergreen forests are very lightly worked.

Early in the last century the attention of the East India Company was attracted to the slopes of the Ghāts as affording suitable sites for the growth of cinnamon, cloves and other tropical products of value, and accordingly in 1802 it put down a large number of such plants. These were managed directly by the Company itself for some time, but were ultimately parcelled out among private owners. Coffee-planting has been tried for several years on the Tenkāsi and Nānguneri hills, but has not met with success and the estates are no longer maintained. Oranges, pumplemosses (pomeloes) and mangosteens grow on the Kuttālam hills. An interesting experiment is being carried out in the Srīvaikuntam taluk, where an area of nearly 22 square miles of shifting sand (*teri*) is being gradually reclaimed by the planting of palmyras with under-planting of *viru rettai* (*Dalbergia sympathetica*).

Minerals.

No minerals of value have been found in the District. Tradition speaks of copper being washed down by the Tambraparni river; this probably refers to the great quantities of magnetic iron sand which are brought down from the mountains, but no iron manufacture is carried on, nor have any traces of the existence of such an industry in former days been met with. Small garnets are found on the sea-shore near Cape Comorin. Many fine granitoids exist to the south of Pālamcottah. Granite, limestone and sandstone are largely quarried for

commercial purposes. The fine cream-coloured calcareous sandstone quarried in Panampārai in Srīvaikuntam tāluk was used in constructing the large Gothic churches at Mengnānapuram and Mudalūr as well as the big Hindu temple at Tiruchendūr on the coast. A kind of rock-coral found near Tuticorin is largely used in that town for rough building purposes.

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Cotton spinning and weaving have for a long time been the leading industries in Tinnevely. In the early years of the last century little raw cotton was exported, but a large quantity was made into cloth in the looms of the District. This local industry has now greatly declined, much of the cotton being exported raw to various parts of the world. A considerable portion is, however, spun in the mills at Tuticorin, Koilpatti and Pāpanāsam for local consumption as well as for export. At VIRAVANALLUR and KALLIDAIKURICHI in the Ambāsamudram tāluk, there is a thriving weaving industry, most of the *mundus*, the national dress in Travancore, sold in that State being manufactured at these two places. A kind of coarse towelling is made at Srīvilliputtūr and the adjoining villages. Melapālayam, a suburb of Pālamcottah chiefly inhabited by Labbais, is noted for its small cotton carpets, which command a large sale locally.

Arts and
Manufac-
tures.

At Mannārkovil and Vāgaikulam near AMBASAMUDRAM there is a flourishing brass and bell-metal industry. Reed mats of a peculiarly fine texture are made at Pattamadai near SERMADEVI, but the industry is in the hands of a few poor Musalmān families and shows no signs of improvement. Good hand-made lace of various European patterns is manufactured in some of the mission stations. The District has also earned a name for the superior make and finish of its bullock-carts.

A large percentage of the population of Tinnevely subsists by industries connected with the palmyra, such as drawing toddy from the tree, boiling this down into jaggery (coarse sugar), making mats from the leaves or fibre and so on. The palmyra industry is in fact the most important in the District and employs a much larger number of persons than the crafts connected with cotton, though the actual money value of the cotton goods turned out may be greater than that of the produce of the palmyra.

There are a large number of steam cotton cleaning and pressing factories in the District. These are situated at

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Tuticorin on the coast, at Pāpanāsam, and at Sāttūr, Virudupatti and Koilpatti in the centre of the cotton-growing area, and are noticed in more detail in the articles on those places. In 1903 the total number of these factories in the District was sixteen, and they employed more than 1,000 hands daily. Salt takes the next place. There are ten salt factories in Tinnevelly (those at Tuticorin, Arumuganeri, KAYALPATNAM and KULASEKARAPATNAM are the most important) with an outturn (in 1903) of about 64,000 tons of salt which brought in a duty to Government of nearly 35 lakhs of rupees. On the coast are also several fish-curing yards under Government supervision. The immense number of palmyras in the District has led to the establishment in it of three sugar refineries (two in Tinnevelly and one at Alvār Tirunagari) under native management. Owing to financial difficulties, however, these are not systematically worked at present.

Com-
merce.

The chief exports from Tinnevelly are cotton, jaggery, chillies, tobacco, palmyra-fibre, salt, dried fish, and cattle; and the principal imports, cotton twist and yarn, European piece-goods and kerosene-oil. There are three recognised ports, namely, Tuticorin, Kulasekarapatnam and Kāyalpatnam, but the first is the only one which is important. Its trade is noticed in the separate article on that town. There is a considerable export of dried salt fish from the coast to Rangoon, Madras and Ceylon. The pearl and chank (*Turbinella rapa*) fisheries in the Gulf of Manaar are Government monopolies, but the profit is always doubtful and uncertain. Tinnevelly was once celebrated for its trade in senna. This has now almost died out, as Egyptian senna is considered better and is less adulterated. A considerable volume of trade, chiefly paddy from the Tambraparni valley, passes over the trunk road leading from Tinnevelly to TRIVANDRUM. There are two European exchange banks at Tuticorin and two similar institutions under native management at Tinnevelly. Much of the distribution of the imports and the collection of merchandise for export is done at local weekly markets. Some of these are under the control of local boards and in 1903-04 the fees collected at them brought in an income to these bodies of Rs. 7,500. The trade at the sea-ports is largely in the hands of the Labbais already referred to, but Tuticorin contains the agencies of several European firms.

The South Indian Railway (metre gauge) enters the District from the north near Virudupatti and runs south in an almost straight line to Maniyāchi through Sāttūr and Koilpatti. From Maniyāchi it turns east to Tuticorin on the coast, thus completing the through communication between Madras and the chief southern port of the Presidency. From the same place a railway branches off to Tinnevely and on to SHENCOTTAH on the eastern frontier of Travancore territory through the fertile tāluks of Ambāsamudram and Tenkāsi. The portion of this last between Tinnevely and Shencottah was opened recently (in 1903) and has been extended to QUILON on the west coast through the gap in the Western Ghāts near Kuttālam. The District board has also recently resolved to levy a cess under Act V of 1884 for the construction of another much-needed line, on the metre gauge, from Tinnevely to Tiruchendūr, a famous Saivite shrine on the coast. A survey has already (1904) been made and construction is likely soon to be undertaken.

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VELLY
DISTRICT.
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Railways
and Roads.

The local boards maintain 831 miles of metalled, and 100 miles of unmetalled, roads. There are avenues along 889 miles of them. The centre upon which all the main lines of communication converge is Tinnevely. The grand trunk road from Tinnevely to Madura has lost much of its importance since the opening in 1876 of the South Indian Railway, which runs nearly in the same direction. Another very important line of communication is the road from Tinnevely to NAGERCOIL in south Travancore *via* Nāngumeri. Most of the very considerable trade between Tinnevely and Travancore used to be carried over this route before the recent opening of the railway to Quilon.

The District is not liable to serious droughts, but the northern tāluks and Nāngumeri are affected in years of scanty rainfall. Tinnevely suffered somewhat in the great famine of 1876-78, but the distress was not as severe as in other Districts. Relief-works were started in December 1876 but they were discontinued in May 1877 and gratuitous relief was given only for a short period. The highest number relieved in any one month was only 23,000. The distress however necessitated the grant of remissions of revenue amounting to 8½ lakhs. Since then the District has suffered slightly from deficient rainfall in several years. In 1891-92 remission of the assessment on unirrigated land to the extent of nearly Rs. 66,000 and on wet land of over 4 lakhs of rupees was granted, and about 875 people on an

Famine.

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average were employed daily on relief-works from March to August 1891. The recent opening of the Quilon branch of the South Indian Railway, which traverses the whole length of the Ambāsamudram and Tenkāsi taluks, touching all the important towns and centres of trade, will in future facilitate the collection and distribution of grain over all parts of the District.

District
sub-div-
isions and
staff.

There are four revenue sub-divisions in the District, all of which, except the head-quarters charge comprising the taluks of Tinnevely and Sankaranayinārkovil, are at present managed by covenanted officers of the Indian Civil Service. The Tuticorin sub-division comprises the two large taluks of Ottappidāram and Srīvaikuntam. The taluks of Nānguneri, Ambāsamudram and Tenkāsi lying at the foot of the Ghāts form the Sermādevi division. The Sāttūr division, formerly under a Deputy Collector but recently placed in charge of a member of the Indian Civil Service, includes the two northern taluks of Sāttūr and Srīvilliputtūr. A tahsildār is posted at the head-quarters of each taluk and a stationary sub-magistrate also. In addition to these there are deputy tahsildār-magistrates at Pālamcottah, Vilātikulam, Tuticorin, Rādhāpuram, Varttirāyiruppu and Virudupatti. Pālamcottah is also the head-quarters of the District Judge, District Superintendent of Police, District Surgeon, Executive Engineer and District Forest Officer, and of the Bishop of Tinnevely.

Civil Jus-
tice and
Crime.

Civil justice is administered by a District Judge, two Sub-Judges, one at the District head-quarters and the other at Tuticorin, and seven District Munsiffs, two of whom are stationed at Tinnevely and the other five at Srīvilliputtūr, Sāttūr, Tuticorin, Srīvaikuntam and Ambāsamudram respectively. There are in addition nearly 420 village courts for the disposal of petty suits under Madras Act I of 1889. The District is one of the most litigious in the Presidency, contributing nearly 7 per cent. of the total annual number of suits filed within it.

Besides the Court of Session, the Additional Sub-Judge at Tuticorin is also authorised to try criminal cases as Assistant Sessions Judge. The District contributes about 5 per cent. of the total annual number of criminal cases in the Presidency and has an unenviable reputation for dacoities, robberies and house-breaking. The followers of the poligārs (local chieftains) of the Maravan caste used, in the days before British rule, to live mainly by plundering the people, and the predatory spirit still

subsists in their descendants. *Kāval* fees, a relic of the old black-mail levied by these chiefs, are still paid all over the District by villagers as the price of exemption from molestation by these people except in a few villages which have been strong enough to make a stand against this extortion. A movement to throw off the system is spreading among the people but experience proves that it is most difficult to eradicate. The antipathy which has long existed between the Maravans and the Shānāns of the District, and which culminated in the unfortunate riots of 1899, has for long been a source of anxiety to the District officials. Special police forces have been temporarily stationed at the centres where disturbances are most likely to arise and the preventive provisions of the Criminal Procedure Code have been systematically put into operation. Special schools have also been started in the more important centres of the Maravans to disseminate education and the principles of honest living among this caste.

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No exact details are available regarding the land revenue system which prevailed in Tinnevely under the Naik Rājās of Madura. It is usually supposed that they were content with one-sixth of the gross produce, but Wilks says that one-third was the usual proportion taken from dry land. There is no doubt that their assessments were light in comparison with those of the Musalmāns who succeeded them.

Land
Revenue
adminis-
tration.

The Hindu government was subverted by the Musalmāns between 1736 and 1739. From 1739 to 1801, when the Company finally assumed control of the country, a succession of managers were deputed to administer the revenue of Tinnevely. Of these fifteen were Musalmāns, nine were Hindus and two were officers of the Company. From 1739 to 1770 the assessment was paid in kind, land watered by the Tāmbraparni or from never-failing water-courses being charged twice as much as fields irrigated from tanks. There were, however, additional cesses, collected in money, which varied from time to time. In 1770 the system of dividing the crop between the cultivator and the Government was introduced. The latter took 60 per cent. of the gross outturn on wet land after first deducting some small cultivation expenses and money cesses. This share was reduced to 50 per cent. in 1780, and continued at that rate till 1800.

In 1801 Mr. Lushington took charge of the District on behalf of the East India Company, the whole management of the

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DISTRICT.

revenues of Tinnevelly having been made over by the Nawāb of the Carnatic to the English by treaty. The revenue history of the District as administered by the Company dates from this year. The native governments had never inaugurated any really systematic administration of the land revenue and the Company had to experiment tentatively. Mr. Lushington commenced operations with the measurement of all land, both wet and dry, and an attempt at the classification of the latter.

Subsequent administration differed according as the land was wet or dry. In the wet villages the system of division of the crop was continued, the Government share being raised to 60 per cent. in 1803 and the other demands continuing as before. The evils of this system (which are described in detail in the *Tinnevelly District Manual*, pp. 71-2) led to the adoption, in 1808, of a three years' village lease by which the villages were rented for fixed money payments to their inhabitants. The payments were calculated on the average collections of previous periods, with a deduction to compensate for the undue exactions of the officials of the Nawābs, and a system of monthly instalments was introduced by which the demand was distributed over the eight months from December to September. This village lease system was a failure owing to various causes, the chief being a fall in the price of grain, and was not continued. In 1813 decennial leases, based on much the same principles, were introduced into the irrigated villages of the Tāmbraparni valley, but villages which objected to it were allowed to revert to the system of the division of the crop. By 1814, only 106 of the 1,177 villages in the valley remained under this latter system, the rest having accepted the decennial lease. In 1820 the Collector recommended a reduction of 12 per cent. in the rentals fixed for the decennial leases in the wet villages. The alteration actually made was the introduction of the *olungu* system, which came into force in 1822 and lasted till 1859. This consisted in the payment to Government of an assumed or estimated share of the produce, the value of which was commuted at a standard price modified by the current prices of the day. It was advantageous to the ryots and eventually altogether displaced the system of division of crops.

In 1859 the *mottamfaisai* system was introduced. This was a modification of the *olungu* method, the variations in the conversion rate according to current prices being abandoned

and a standard price adopted once for all as a permanent conversion rate. As prices soon after began to rise, while the fixed rate was low, this alteration was greatly in favour of the ryots and resulted in a rapid increase of cultivation.

The revenue history of dry villages is different. During the time of the Nawābs the renters levied a lump annual assessment on them which was distributed among the various cultivators by the chief ryots on a classification of the soils of the various holdings. In 1802 Mr. Lushington fixed the rates on these fields by taking the average collections of former years as his standard, and for some years his assessments underwent alternate reduction and enhancement. In 1808 they were permanently reduced to rates which varied, according to the soil, from Rs. 2-5-0 to annas 10 per acre and they remained the same, with a few unimportant alterations, till 1865.

The various experiments above described left the assessment of the land revenue payable by the individual ryot very much to the discretion of the chief inhabitants, and the results were frequently unsatisfactory. The Government accordingly at length resolved to re-settle the land revenue on the ryotwāri principle. This re-settlement was begun in 1865 and completed in 1878 and was ordered to continue in force for 30 years. It was preceded by a complete survey of all the land in the District, and, though this showed that the area in occupation was 7 per cent. in excess of that shown in the accounts, the assessment arrived at by the settlement was one-half per cent. less than it was before. The average assessment per acre on dry land is now R. 1 (maximum, Rs. 5; minimum, As. 3) and that on wet land Rs. 6 (maximum, Rs. 12; minimum, Rs. 2). The period of this settlement has already expired and a re-survey and re-settlement were undertaken towards the close of 1904 in the Tinnevelly, Tenkāsi and Ambāsamudram taluks. The revenue from land and the total revenue of the District in recent years are given below in thousands of rupees :—

—	1880-81.	1890-91.	1900-01.	1903-04.
Land revenue ..	3,245	2,950	3,489	3,618
Total revenue ..	3,876	4,058	5,315	5,853

TINNE-
VELLY
DISTRICT.

— —
Local
boards.

The local affairs of the District are managed by a District board consisting of 32 members and by the four taluk boards of Tinnevely, Tuticorin, Sermādevi and Sāttūr, the areas under the charge of which are respectively identical with those of the revenue sub-divisions of the same names. There are also 36 Unions established under Madras Act V of 1884, of which 22 have a population of more than 10,000 each. Next to Madūrā, Tinnevely contains the largest number of such Unions in the Presidency. The income of all the local boards in 1903-04 (excluding opening balances) was Rs. 5,43,000, of which Rs. 2,77,000 were contributed by the land-cess and about Rs. 60,000 by tolls. The expenditure for the same year was Rs. 5,30,000, of which Rs. 2,60,000 were devoted to the construction and upkeep of roads and buildings, the other chief items of expenditure being education, sanitation and vaccination.

Police and
Jails.

Police affairs, as in other Districts, are managed by a District Superintendent. He is stationed at Pālamcottah and is helped by an Assistant Superintendent at Tuticorin and a Special Assistant at Sivakāsi who is in charge of the special temporary forces mentioned below and also does general police work. There are 85 police-stations and 1,087 constables working under 19 inspectors, besides 1,182 rural police under the control of the tahsildārs. Special temporary forces have also been stationed at Sivakāsi, Koilpatti, Sūrandai and Margalukurichi in consequence of the Shānār riots already referred to. The District jail is at Pālamcottah, and fifteen subsidiary jails, which can accommodate 255 prisoners, are at other places.

Educa-
tion.

In the matter of education, Tinnevely (according to the census statistics) is one of the more advanced Districts of the Presidency. It ranks fifth among them, ten per cent. of its population (19 per cent. of the males and $1\frac{1}{2}$ per cent. of the females) being able to read and write. Education is most advanced in the taluks of Tenkasi, Ambāsamudram and Tinnevely along the valley of the Tāmbraparni, and most backward in the cotton soil portions of the District. The total number of pupils under instruction in the District in 1880-81 was 34,863; in 1890-91, 53,130; in 1900-01, 66,283; and in 1903-04, 73,726, of whom 10,819 were girls. On the 31st March 1904 it contained 1,297 primary schools, 75 secondary and eleven special schools, besides three colleges. There were in addition in 1903-04, 538 private schools with 13,196 male scholars and 544

female scholars. Of the 1,386 educational institutions within it classed as public, two were managed by the Educational department, 58 by local boards and seven by municipalities, 1,052 were aided from public funds, and 267 were unaided. Of the male population of school age, 29 per cent. were in the primary stage of instruction, and of the female population of the same age, about 6 per cent. Among Musalmāns the corresponding percentages were 90 and 8 respectively. About 150 schools are maintained for Panchamas or depressed castes, in which about 5,600 scholars were studying in 1903-04.

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Chiefly owing to missionary influence, female education is comparatively advanced in Tinnevely, there being 1,900 female scholars in secondary schools and nearly 8,200 in primary institutions. There were also nine girls reading in the collegiate course at the Sarah Tucker College at Palamcottah. The great majority of the girl scholars however belong to the native Christian community. The two arts colleges for boys are in Tinnevely town. About Rs. 4,65,000 were spent on education during 1903-04, of which Rs. 1,30,000 were derived from fees. Of the total outlay, Rs. 2,60,000 were devoted to primary education.

There are eleven hospitals and twelve dispensaries in the District. Seven of the former and nine of the latter are maintained by the local boards, and the remainder (four hospitals in the four municipal towns and three dispensaries, two in Tinnevely town and one in Palamcottah) from municipal funds. Besides these, the various mission agencies have established four hospitals and three dispensaries. These institutions have accommodation for 109 male and 73 female in-patients. A local fund hospital for women and children has recently been built at Palamcottah. About 339,000 persons, of whom 2,500 were in-patients, were treated in the District in 1903 and 10,000 operations were performed. The total cost of all the institutions in the same year was Rs. 61,000, which was mainly met from local and municipal revenues and to a small extent from the income of endowments and (in the case of mission hospitals) from private subscriptions.

Hospitals
and dis-
pensaries.

Vaccination has always been fairly satisfactorily conducted in Tinnevely and in the year 1903-04 its vaccinators performed a large number of operations at the comparatively low cost for each successful case of 3 annas and 1 pie. The number of successful operations per mille of the total population was 39.4,

Vaccina-
tion.

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which again was the largest percentage in the Presidency except in the Nilgiris. Vaccination is compulsory in the municipalities and in 19 out of the 35 Unions.

Further particulars of the Tinnevelly District will be found in the *District Manual* by A. J. Stuart (1879) and in Bishop Caldwell's *History of Tinnevelly* (1881).

Sāttūr Sub-division.—A sub-division of the Tinnevelly District, Madras, consisting of the tāluks of SATTUR and SRIVILLIPUTTUR.

Sāttūr Tāluk.—The northernmost tāluk of the Tinnevelly District, Madras, lying between $9^{\circ} 2'$ and $9^{\circ} 43' N.$ and $77^{\circ} 43'$ and $78^{\circ} 9' E.$, with an area of 560 square miles. Its northern and eastern villages are chiefly covered with black cotton soil while the southern and south-western portions consist of red loam and sand. The only river is the Vaippār, which is not of much use for irrigation. Cotton is the staple product but *cambu* is also largely grown. There is a good deal of careful cultivation of garden crops with well irrigation, but the area of wet lands is small. The tāluk is comparatively sparsely peopled, the total population in 1901 being 186,694 (against 184,329 in 1891) or a little more than 330 to the square mile. The tāluk contains three towns, VIRUDUPATTI, population 16,837, SIVAKASI (13,021) and SATTUR (7,870) its head-quarters, and 206 villages. The land revenue and cesses demand in 1903-04 amounted to Rs. 2,68,000. The tāluk includes a considerable number of zamīndāri and inām villages, none of which, however, is very large.

Srīvilliputtūr Tāluk.—Tāluk in the north-west of the Tinnevelly District, Madras, lying between $9^{\circ} 17'$ and $9^{\circ} 42' N.$ and $77^{\circ} 26'$ and $77^{\circ} 51' E.$ The soils in rather more than half of it, including the villages lying to the west, belong to the red clay or loam and sand series, while the easterly villages form a portion of the cotton soil plain of the District. The country to the west undulates considerably owing to the numerous streams which descend from the WESTERN GHATS and supply a large number of tanks in this part of the country. The tāluk has an area of 585 square miles and contains four towns, SRIVILLIPUTTUR, its head-quarters, population 26,382, RAJAPALAIYAM (25,360), SETTUR (14,328), and VARTTI-RAYIRUPPU (13,131), and 94 villages. Its land revenue and cesses demand was Rs. 4,11,000 in 1903-04. The population in

1901 was 205,745 against 190,517 in 1891, or a little more than 350 persons to the square mile.

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Tinnevelly Sub-division.—A sub-division of the Tinnevelly District of the Madras Presidency, comprising the taluks of TINNEVELLY and SANKARANAYINARKOVIL.

Tinnevelly Taluk.—This taluk, which is 328 square miles in extent, is situated between $8^{\circ} 36'$ and $8^{\circ} 57'$ N. and $77^{\circ} 34'$ and $77^{\circ} 51'$ E., in the centre of the District of the same name in the Madras Presidency. It consists, as respects soil and general features, of two distinct portions, namely the valleys of the TAMBRAPARNI and Chittār, and the high dry land which lies between these rivers and on either side of them. Its wet land is supplied by means of five channels, the Kodagan, Palayan, Tinnevelly, Marudūr East and Marudūr West channels, leading from dams across the former of these streams. About fifteen other channels are supplied by the Chittār. The soil of the dry land of the taluk is of the red and sandy series and generally poor. The population in 1901 was 194,647, against 184,728 in 1891, and the land revenue and cesses demand in 1903-04 amounted to Rs. 3,81,000. The taluk is the most densely populated in the District, having nearly 600 people to the square mile. It includes 123 villages besides the two municipal towns of TINNEVELLY, its head-quarters, population 40,469, and PALAMCOTTAH (39,545) situated on opposite sides of the river Tāmbraparni.

Sankaranayinārkovil Taluk.—Taluk in the Tinnevelly District of the Madras Presidency, lying at the foot of the WESTERN GHATS between $8^{\circ} 55'$ and $9^{\circ} 25'$ N. and $77^{\circ} 14'$ and $77^{\circ} 52'$ E. It contains soils of both the red and black classes and depends for its cultivation chiefly on the north-east monsoon, the rainfall during the earlier or south-west monsoon being trifling and uncertain. The taluk has an area of 717 square miles with a population (in 1901) of 232,980 persons against 213,799 in 1891, or 325 to the square mile. It contains two towns, SIVAGIRI, population 18,150, and SANKARANAYINARKOVIL (16,775), its head-quarters, and 123 villages. The land revenue and cesses amounted to Rs. 3,02,000 in 1903-04. There are a considerable number of zamīndāris in the taluk, the biggest of which is SIVAGIRI ESTATE.

Sivagiri Estate.—This zamīndāri is situated mainly in the north-west of the Sankaranayinārkovil taluk, Tinnevelly District,

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Madras, and has an area of nearly 125 square miles excluding 30 square miles of forest on the slopes of the WESTERN GHATS. Its population in 1901 was about 58,000. It is one of the ancient estates of the Presidency and pays a peshkash of Rs. 55,000 and land-cess amounting to Rs. 5,000. About 50,000 acres are under cultivation, of which a little over a fourth is wet, the remainder being dry. The income of the estate is about Rs. 1,84,000 and at present, owing to the minority of the proprietor, it is managed by the Court of Wards. SIVAGIRI is the only town of importance within it.

Tuticorin Sub-division.—A sub-division of the Tinnevelly District, Madras, consisting of the OTTAPPIDARAM and SRIVAİKUNTAM taluks.

Ottappidāram.—This extensive taluk, which has an area of 1,072 square miles, occupies the north-eastern portion of the Tinnevelly District, Madras, and lies between 8° 41' and 9° 22' N. and 77° 41' and 78° 23' E. By far the largest portion is zamīndāri land, the estates comprised in it including ETTAIYAPURAM, the biggest in the District. It is almost entirely a wide plain of black cotton soil, though to the west and south lies a considerable area covered with red sand and loam. Rainfall is very scanty and there is little wet cultivation, but cotton is grown very largely and sent to Tuticorin for export. The population in 1891 was 342,145 and in 1901, 358,568, or nearly 335 persons to the square mile. The taluk contains two towns, TUTICORIN, a place of 28,048 inhabitants, and Ettaiyapuram (8,788), and 394 villages. The land revenue and cesses demand in 1903-04 was Rs. 3,45,000.

Ettaiyāpuram Estate.—This zamīndāri, which is the largest in the Tinnevelly District, Madras, is situated in the Ottappidāram taluk in the north-east of that District. Its area is nearly 570 square miles and it comprises 374 villages with a population of 154,000 persons. The principal castes are all Telugus by race. The ancestors of the zamīndār originally came from CHANDRAGIRI in North Arcot District. The family name of Ettappan is said to have been conferred on Nallama Naik, the tenth in descent, by the king of Vijayanagar. Kumāramuttu Naik, the fourteenth in descent, migrated to MADURA owing to the disturbances in the north consequent on the invasion of Alā-ud-dīn Khiljī. The exile was kindly received by the Pandyan king of Madura, who granted him extensive lands and

villages. Later on Kumāramuttu was sent down to quell disturbances in Tinnevelly. He accordingly proceeded to SATTUR and built a fort there, the remains of which can be seen at the present day on the south bank of the Sattūr river. The present town of ETTAIYAPURAM, the head-quarters of the zamīndāri (population 8,788), is said to have been built in 1567. Muttu Jaga Vīra Rāma Naik, the thirty-first zamīndār, had a standing army of 6,000 men and rendered great help to the British Government during the Poligār wars of 1799-1801, receiving, in recognition of his services, four out of the six divisions into which the forfeited estates of the vanquished poligārs were divided.

The zamīndāri consists mainly of black cotton soil. Out of a culturable extent of 6,000 acres of wet, and 250,000 acres of dry, land nearly 5,000 acres and 240,000 acres respectively are under cultivation, the wet land being watered by more than 90 tanks. The rainfall averages 33 inches. About 10,000 acres are set aside as game preserves and in these antelope, hares and partridges abound. Jaggery (coarse sugar) is made from the palmyra palm in large quantities and half the cotton grown in the Tinnevelly District comes from the estate.

The estate is held under permanent zamīndāri tenure and has an income of more than 3½ lakhs of rupees, while the annual peshkash, or permanent assessment paid to Government, exceeds Rs. 1,16,000. About 100 miles of road are maintained by the estate within its limits, and it contributes a sum of Rs. 1,000 annually, towards the upkeep of two local fund hospitals, one at Ettaiyāpuram and the other at Nāgalāpuram. There is a high school for boys and a girls' school at Ettaiyāpuram.

Srīvaikuntam Taluk.—A taluk which extends over an area of 542 square miles between 8° 17' and 8° 48' N. and 77° 48' and 78° 10' E., in the south-eastern portion of the Tinnevelly District, Madras. In it are found black cotton soil in the north, red sand and red clay villages to the south and west, the *teri*, or blown sand, founded upon the sandstone and claystone ridges parallel to the coast, and lastly the rich alluvial belt of the TAMBRAPARNI valley. Four main channels, two on either bank of the river leading from the Marudūr and Srīvaikuntam dams, irrigate the taluk directly, besides supplying a large series of tanks. To the south the country is covered with thousands of palmyra palms. The population of the taluk, 321,534 in 1901 against 287,603 in 1891, is equal in density to that

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of Tinnevely, being nearly 600 to the square mile. Srivai-kuntam is only second to Tinnevely in the literacy of its inhabitants, and it has the largest Christian community (over 54,000) in the whole District. It contains an unusually large number of interesting places, chief of which are TIRUCHENDUR, population 26,056, a famous Saivite shrine on the coast; KULASEKARAPATNAM (19,898) and KAYALPATNAM (11,746) two decayed ports with a large population of Musalmān Labbais; SRIVAİKUNTAM, the head-quarters (10,550) and ALVAR TIRUNAGARI (6,630), which contains two noted Vaishnavite temples; the two smaller towns of SATTANKULAM, (6,953) and SIRUTTONDANALLUR (6,099); NAZARETH a centre of the native Christians; KAYAL and KOLKAI, celebrated as the early capitals of the Pāndyan dynasty; and last but not least, ADICHANALLUR, the most interesting prehistoric burial-place in southern India. The number of villages in the tāluk is 134 and the land revenue and cesses demand in 1903-04 amounted to Rs. 6,30,000.

Sermādevi Sub-division.—A sub-division of the Tinnevely District, Madras, consisting of the AMBASAMUDRAM, TENKASI and NANGUNERI tāluks.

Ambāsamudram Tāluk.—The most fertile tāluk in the Tinnevely District, Madras, lying between 8° 29' and 8° 57' N. and 77° 12' and 77° 40' E., at the foot of the WESTERN GHATS. It covers an area of 481 square miles and is mainly composed of the valleys of the TAMBRAPARNI and its affluents, which contain rich areas of rice cultivation yielding two unfailing crops every year. The irrigation system of the tāluk, which depends upon numerous dams across the Tāmbraparni, is ancient and very complete. Excepting the river valleys, however, the soil of the tāluk is rocky and poor. There are two zamīndāris in it, Singampatti and Urkāḍ, both of which are well situated for irrigation, the former from the Manimuttār and the latter from the Tāmbraparni. The valley of this latter river is studded with numerous towns and villages which contain a large population of wealthy Brāhman landowners, to whose enterprise and intelligence the prosperity of the tāluk is mainly due. AMBASAMUDRAM, population 12,869, is the head-quarters of the tāluk, but VIRAVANALLUR (17,327), KALLIDAI-KURICHI (14,913) and SERMADEVI (13,474) are larger places. PAPANASAM, a famous place of pilgrimage, is situated within

it and there are 84 other villages. The land revenue and cesses demand in 1903-04 amounted to Rs. 4,74,000. Its population in 1901 was 182,481, against 183,614 in 1891, or 379 to the square mile. The apparent decrease since 1891 is accounted for by the presence in it of a large number of labourers from outside at the time of the census of 1891.

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Tenkāsi Tāluk.—This small, though fertile, tāluk lies between $8^{\circ} 49'$ and $9^{\circ} 9'$ N. and $77^{\circ} 13'$ and $77^{\circ} 38'$ E., at the foot of the WESTERN GHATS in the Tinnevelly District, Madras, and has an area of 374 square miles. It contains three towns, TENKASI, its head-quarters, population 18,128, KADAIYANALLUR (13,939) and SURANDAI (11,810), and 92 villages. In physical features it resembles on a smaller scale the neighbouring tāluk of Ambāsamudram. It is well-watered by the Chittār and the affluents of this river are crossed by numerous anicuts, or dams, feeding irrigation channels and tanks. The land revenue and cesses demand in 1903-04 amounted to Rs. 2,87,000. Tenkāsi ranks third among the tāluks in the District in the density of its population, the total number of its inhabitants in 1901 being 174,430, or 466 to the square mile. In 1891 the population was 154,940.

Nānguneri Tāluk.—Tāluk occupying the whole of the extreme south of the Tinnevelly District (Madras) and thus the southernmost tāluk in the Presidency. It lies between $8^{\circ} 9'$ and $8^{\circ} 38'$ N. and $77^{\circ} 24'$ and $77^{\circ} 55'$ E., with an area of 730 square miles, and is composed of red clay, loams and sands, excepting a strip parallel with the sea, and extending some three to ten miles in land, where white sands and *teri* (blown sand) tracts prevail. Palmyra palms abound throughout it and in the east and south are almost the sole produce of the soil and means of support of its inhabitants. In the north-east and centre of the tāluk are numerous tanks, both rain-fed and supplied by mountain streams, and a very large number of wells are to be found in the south. The villages at the foot of the WESTERN GHATS, which form the western boundary of the tāluk, are well-supplied during both monsoons with water from that range, which is more striking and picturesque here than elsewhere in the District and is clothed with dense forest to the very top. Nānguneri is the least thickly peopled tāluk in Tinnevelly, having a population of only 202,528 souls in 1901 (in 1891 the figure was 174,418) or barely 280 to the square mile. But though this is much below the average in

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Tinnevely it is above that for the Presidency as a whole. There are only two towns in it of any importance, NANGUNERI, its head-quarters, population 6,580, and VADAKKU VALLIYUR (6,903), both situated on the highway between Tinnevely and Trivandrum. The number of villages is 231 and the land revenue and cesses demand amounted to Rs. 3,65,000 in 1903-04.

Adichanallūr.—A village in Srīvaikuntam taluk, Tinnevely District, Madras, situated three miles west of Srīvaikuntam in 8° 38' N. and 77° 50' E. on the right bank of the TAMBAPARNI river and 15 miles from Palamcottah. It has long been known as a place of considerable archæological interest. Excavations conducted by Mr. Rea, the Superintendent of the Archæological Survey, in 1899 and the following years have shown that it is the most extensive and important prehistoric burial-place as yet known in southern India. Hundreds of ancient sepulchral urns have been unearthed by Mr. Rea in a long piece of high ground on the south bank of the river, about 100 acres of which, at his suggestion, have been now marked off by Government and protected from molestation until the excavations shall have been completed. In this ground the urns are found at an average distance of only six feet apart and at from three to ten feet or more below the surface. In the centre about three feet of the surface soil is composed of gravel with decomposed quartz rock below. The rock has been hollowed out for the urns, a separate cavity being prepared for each and a band of rock being left between each one and the next. The chambers thus made have preserved their contents in an almost perfect condition and from those which have so far been opened, the number of which is only a small fraction of the whole, have been taken, besides the bones and skulls of the dead, more than 1,200 objects, including many unique and curious specimens of work in bronze and iron, pottery, and some pure gold ornaments. The iron articles found comprise large bracketed and small hanging lamps, swords, spears, knives, adzes, celts, hammers, rings, bangles, beam rods, tridents, tripods, axes, arrows, chisels, etc., etc. Those made of bronze include small cups, moulded and ornamented jars, flat bowls and platters and some curious lamps. Some of the pottery vessels are of exquisite shape and moulding with a fine glaze. These finds have been deposited in the Madras Museum. A tradition asserts that near this site was a most extensive town and the deposits above described seem amply to support it. Mr.

Rea thinks that the place might have been a big Pāndyan town, as from many observations he has made this mode of urn-burial appears to have been that adopted by the Pallavas and Pāndyas. Further excavations are still (1905) going on at Adichanallūr and they will probably eventually lead to more definite and valuable results.

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Alvār Tirunagari.—Town in the Srīvaikuntam tāluk of the Tinnevelly District, Madras, 21 miles south-east of TINNEVELLY on the right bank of the TAMBRAPARNI river, in $8^{\circ} 37' N.$ and $77^{\circ} 57' E.$ It derives its name from the fact that it was the birth-place of Nammālvār, one of the leading saints of the Vaishnavite sect, in whose honour a large temple has been built here. A tree is shown in the temple which is said to be the identical one under which the famous saint sat and meditated. Alvār Tirunagari has a population of 6,630 and is a Union. A sugar refinery is working there. The annual festivals in February and May attract large crowds from the adjoining Districts.

Ambāsamudram Town.—Head-quarters of the tāluk of the same name in the Tinnevelly District, Madras. It is situated on the left bank of the TAMBRAPARNI river 20 miles above TINNEVELLY in $8^{\circ} 42' N.$ and $77^{\circ} 27' E.$, has a population of 12,869 (1901) and is a Union. There is a high school in it managed by a local committee.

Ettaiyāpuram Town.—The chief place in the zamīndāri of the same name in the Ottappidāram tāluk of the Tinnevelly District, Madras, is situated at a distance of ten miles from KOILPATTI station on the South Indian Railway line in $9^{\circ} 9' N.$ and $78^{\circ} E.$ It has a population of 8,788 and its local affairs are managed by a Union panchāyat. There is a hospital and a high school in the place and it also contains the residence of the zamīndār.

Kadaiyanallūr.—A Union in Tenkāsi tāluk, Tinnevelly District, Madras, situated in $9^{\circ} 4' N.$ and $77^{\circ} 20' E.$ It is a considerable centre of trade. The population in 1901 was 13,989, weavers forming a large proportion.

Kallidaikurichi.—A wealthy trading and agricultural town on the TAMBRAPARNI in the Ambāsamudram tāluk of the Tinnevelly District, Madras, lying in $8^{\circ} 41' N.$ and $77^{\circ} 27' E.$ It is a Union with a population of 14,913 (1901). The place contains a very large number of Brāhmans, several of whom are

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engaged in a flourishing cloth trade with Travancore. Some of them are also bankers. The fields in and around the town are well-watered and very valuable.

Kalugumalai (*kalugu*, an eagle and *malai*, a hill).—Village of 4,827 inhabitants in the ETTAIYAPURAM ZAMINDARI, Ottappidāram taluk, of the Tinnevelly District, Madras, situated 28 miles north of TINNEVELLY and 12 miles from SANKARA-NAYINARKOVIL, in 9° 8' N. and 77° 42' E. It contains a celebrated rock-cut temple dedicated to the god Subrahmanya and many Jain sculptures and inscriptions. The temple is much in the style of the SEVEN PAGODAS in the Chingleput District and is thought to belong to the 10th or 11th century A.D. The annual festival and cattle-fair at Kalugumalai in February attract a large number of people from the southern Districts and even from Mysore.

Kāyal.—A small village situated near the sea on the northern bank of the TAMBRAPARNI river, in 8° 40' N. and 78° 5' E., in the Srīvaikuntam taluk of the Tinnevelly District, Madras. It was once a famous port and was visited in 1292 by Marco Polo who calls it "a great and noble city" and notices it at length (Col. Yule's translation, ii, 305). A similar glowing account of the place is given by two Persian historians quoted by Col. Yule. Kāyal sprang into existence after KOLKAI, but the silt of the Tambraparni ruined both places as ports and has now turned them into inland villages. Relics of the ancient greatness of Kāyal are, however, still discoverable in the shape of broken tiles and remnants of pottery. There are also two old temples with inscriptions. A very interesting and detailed account of the place will be found in Bishop Caldwell's *History of Tinnevelly*.

Kāyalpatnam.—A small port lying in 8° 34' N. and 78° 8' E., on the coast of the Srīvaikuntam taluk of the Tinnevelly District, Madras, a few miles to the south of the TAMBRAPARNI river and 18 miles south of TUTICORIN, not to be confounded with Kāyal. It is a Union with a population of 11,746 (1901). Its sea-borne trade, which is chiefly in rice and cocoa-nuts with Ceylon and timber and areca-nuts with Travancore, is carried on by the Musalmān tribe of Labbais. There is also some trade in palmyra-leaf boxes and jaggery (coarse sugar), and a large salt factory is at work.

Koilpatti.—Station on the South Indian Railway line in the Sattūr taluk of the Tinnevelly District, Madras, situated in

9° 10' N. and 77° 52' E. It is an inām village (that is, held on favourable tenure) and a Union with a population of 3,415 persons (1901), and possesses a dry healthy climate. There is a cotton spinning mill under native management at Koilpatti, and a Government Experimental farm has recently been opened there.

Kolkai (*Korkhei, Kolchei, Kolchoi*).—A village of 2,518 inhabitants situated twelve miles east of Srīvaikuntam in the tāluk of that name in the Tinnevelly District, Madras, in 8° 40' N. and 78° 5' E. Tradition asserts that this place was the earliest seat of Dravidian civilisation and the spot where CHERA, CHOLA and PANDYA, the legendary progenitors of the three famous south Indian dynasties of the same names, lived and ruled in common before the two first left their home and founded kingdoms of their own in the west and north. It eventually became the capital of the Pāndyan line and was well known to the early European geographers as one of the most important trading marts in India. It is mentioned by the author of the *Periplus* (A.D. 80) as a celebrated place for pearl-fishing and is also referred to by Ptolemy (A.D. 130). The sea gradually retired from Kolkai owing to the deposit on the shore in front of it of the silt of the TAMBRAPARNI and in consequence a new emporium (KAYAL) arose between Kolkai and the sea. This in its turn met with a similar fate and is now a small village five miles inland. Further interesting particulars about Kolkai are given in Bishop Caldwell's *History of Tinnevelly*.

Kulasekarapatnam.—Town and sea-port in the Srīvaikuntam tāluk, Tinnevelly District, Madras, situated in 8° 25' N. and 78° 3' E. It has a population of 19,898 (1901) and is a Union. A small quantity of salt, said to be of unusually excellent quality, is produced here. The principal exports from Kulasekarapatnam are fibre, oils and oil-cake, jaggery (coarse sugar) and tobacco. The value of the exports in 1903-04 was 3·8 lakhs and of the imports 4·3 lakhs.

Kuttālam.—A famous waterfall and sanitarium at the foot of the WESTERN GHATS in the Tenkāsi tāluk of the Tinnevelly District, Madras, lying in 8° 56' N. and 77° 16' E., 36 miles by road from TINNEVELLY and three from TENKASI. Population 1,197 (1901). Kuttālam receives the rain and cool breezes of the south-west monsoon through a gap in the Ghāts, and thus, although it is only 450 feet above sea-level, possesses

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the climate and flora of a much higher elevation. The scenery is extremely picturesque and the falls of the Chittār are held sacred by Hindus. A beautifully situated temple near these falls is dedicated to Kuttalanāthaswāmi. Kuttālam has always been a favourite resort of the European officials of the District and in recent years there has been a considerable influx of visitors from all parts of the Presidency during the season, which generally lasts from July to September. Several bungalows and rest-houses for natives are maintained in the place and it is connected by good roads with all parts of the District. The Mahārājā of Travancore and the British Resident in Travancore and Cochin have also residences there.

Nānguneri Town.—Head-quarters of the tāluk of the same name in the Tinnevelly District, Madras, situated on the trunk road from TINNEVELLY to TRIVANDRUM, 18 miles from the former, in $8^{\circ} 29' N.$ and $77^{\circ} 40' E.$ Population 6,580 (1901). It contains the *math*, or religious house, of the Vānamāmalai Jir, the head-priest of a section of the Tengalai sub-sect of Vaishnavite Brāhmans. A richly endowed temple is under the control of this *math*. Marugalkurichi, near Nānguneri, is one of the chief centres of the Maravan caste in the District. A special police force is now stationed here in consequence of the riots which took place between the Maravans and the Shānāns in 1899, and the place is administered as a Union.

Nazareth.—A village of 4,351 inhabitants (1,574 Hindus, 87 Musalmāns and 2,690 Christians) situated in $8^{\circ} 34' N.$ and $77^{\circ} 59' E.$, in the Srīvaikuntam tāluk of the Tinnevelly District, Madras, 22 miles from PALAMCOTTAH. As its name shows, the place is a missionary village and it contains a high school for girls, an art industrial school (one of the most prominent in the Madras Presidency), an orphan asylum, and a mission hospital. Nazareth is the head-quarters of a Christian mission which numbers 12,000 adherents and includes 2,000 school children. Good hand-made lace is manufactured at the art school there.

Pālamcottah (*Pālaiyamkottai*, 'barony-fort').—The head-quarters of, and the second largest town in, the Tinnevelly District, Madras, situated in $8^{\circ} 44' N.$ and $77^{\circ} 45' E.$, in the Tinnevelly tāluk, on an open plain a mile from the TAMBRA-PARNI river and $2\frac{1}{2}$ miles from TINNEVELLY. Pālamcottah was fortified under the native rulers and its defences were

intact at the time when it passed into the hands of the British. It subsequently formed the base of their operations during the Poligār wars. The fort was not dismantled until comparatively recently when the garrison of one or more native regiments which had been stationed there ever since the British occupation was finally withdrawn. The population of the town is 39,545 (1901) of whom 23,548 are Hindus, 13,052 (or a third of the total) are Musalmāns, and the rest (2,945) Christians. The high proportion of Musalmāns is accounted for by the inclusion within municipal limits of the large suburb of Melapālayam on the bank of the river, which is inhabited almost wholly by Labbais engaged in trade, agriculture and carpet-making. Palamcottah was constituted a municipality in 1866. The average income and expenditure of this body for the ten years ending with 1902-03 were Rs. 31,000 and Rs. 30,800 respectively; in 1903-04 they were respectively Rs. 48,400 and Rs. 47,000. Most of the former was derived from the taxes on land and houses and from tolls. The town stands in an excellent situation and possesses a dry and healthy climate but has no supply of water which can be depended upon throughout the year. Proposals are being made to remedy this defect, but no definite scheme has been yet formulated.

Being the head-quarters of the District, Palamcottah contains all the offices usual to such stations. It is also the chief centre of the Christian missions in south India and possesses a large number of educational and other philanthropical institutions established by the various mission agencies. Of these the Sarah Tucker College for girls and the school for the deaf and dumb deserve special mention. There are also two high schools for boys besides other secondary schools. The town is the residence of the Bishop of Tinnevely.

Pānjalamkurichi.—A village two miles from Ottappidāram in the tāluk of that name in the Tinnevely District, Madras, situated in 8° 56' N. and 78° 3' E. It was formerly the stronghold and residence of Kattabomma Naik, a rebel poligār who gave the English much trouble at the end of the 18th century. The place was first taken from him by Colonel Fullarton in 1783. In 1799, during the first Poligār war, it was again captured by the English and the poligār was hanged. In 1801 it was once more a centre of disaffection and was stormed after a most stubborn resistance. This final fall contributed largely to the

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complete subjugation of the poligars of the south. The fort was not only pulled down and levelled to the ground, but the very site was ploughed over and cultivated. Nothing now remains to mark the spot but a few traces of the mound erected as a breaching-battery and the enclosure in the neighbourhood containing the tombs of the officers and men of the British force who fell in the fight. A few more such tombs are also to be found near Ottappidāram.

Pāpanāsam (*Pāpa*, sin and *nāsam*, destruction).—A place of pilgrimage situated six miles from AMBASAMUDRAM in the taluk of that name in the Tinnevelly District, Madras, at the foot of the WESTERN GHATS near the point where the TAMBRAPARNI descends to the plains, in $8^{\circ} 43'$ N. and $77^{\circ} 22'$ E. The river debouches from the hills in a magnificent fall which is regarded as very sacred and is annually visited by thousands of people. Pāpanāsam contains a large Saivite temple and four or five chattrams and rest-houses. The fish in the river near the temple are sacred and are supplied with food from the temple funds. A mile below the village is situated the cotton-spinning factory of the Tinnevelly Mills Company, which is worked by water-power, generated by means of a channel from the river, and affords employment to 530 hands daily. The company has a capital of four lakhs and turns out annually about 2,500,000 lb. of yarn valued at nine lakhs.

Rājapālaiyam.—A large Union situated in $9^{\circ} 27'$ N. and $77^{\circ} 33'$ E., eight miles from the head-quarters of the Srivilliputtūr taluk in the Tinnevelly District, Madras, and containing a population of 25,360 inhabitants of whom 24,095 are Hindus, 1,014 Musalmāns, and 251 Christians. The place is mostly inhabited by the Rāzus, a class of people who originally came from VIJAYANAGAR and claim to be Rājputs. Their language is Telugu and they have many peculiar customs different from those of the ordinary natives of southern India. There is also a colony of blacksmiths who turn out good work such as iron safes, vessels and so on. Most of the Rāzus live by agriculture and they also rear cattle which are considered superior to the ordinary breeds.

Sankaranayinārkovil Town.—Head-quarters of the taluk of the same name in the Tinnevelly District, Madras, situated in $9^{\circ} 10'$ N. and $77^{\circ} 32'$ E. It is a Union with a population of 16,775 (1901). A fine temple here is dedicated to both Vishnu

and Siva, a combination which is uncommon. A large cattle fair is held annually in August.

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Sāttānkulam.—Town in Srīvaikuntam tāluk, Tinnevely District, Madras, situated in $8^{\circ} 27' N.$ and $77^{\circ} 55' E.$, which derives its importance from its situation on the border of the great palmyra forest in the south-east of the District. Jaggery (coarse sugar) goes from here to PALAMCOTTAH in large quantities. It is a Union with a population of 6,953 (1901), and is the head-quarters of a Roman Catholic mission which possesses a church and some schools. Two miles to the east is Mudalūr, one of the chief Christian villages in the Tinnevely District, where there is a fine Gothic church.

Sāttūr Town.—Head-quarters of the tāluk of the same name in the Tinnevely District, Madras, and a station on the South Indian Railway, situated in $9^{\circ} 22' N.$ and $77^{\circ} 55' E.$ Sāttūr is also the head-quarters of the officer in charge of the Revenue sub-division comprising the Sāttūr and Srīvilliputtūr tāluks. It is a Union with a population of 7,870 and has a local fund hospital. There are two cotton-pressing and ginning factories which employ in the aggregate 200 hands daily.

Sermādevi.—A Union situated in $8^{\circ} 41' N.$ and $77^{\circ} 34' E.$, in the Ambāsamudram tāluk, Tinnevely District, Madras, containing a population of 13,474 persons (1901). It is the head-quarters of the Revenue Divisional Officer in charge of Nānguneri, Ambāsamudram and Tenkāsi tāluks and a station on the recently opened Tinnevely-Quilon branch of the South Indian Railway. The fields in and around Sermādevi are very valuable and the population is entirely agricultural. Three miles from it is Pattamadai, where mats of very fine texture are manufactured from reeds by a few Musalmān families.

Settūr.—Chief town of the zamīndāri of the same name situated at the south-west corner of the Srīvilliputtūr tāluk in the Tinnevely District, Madras, in $9^{\circ} 24' N.$ and $77^{\circ} 29' E.$ It is a large Union with a population of 14,328 (1901). The zamīndār is of the Maravan caste and is descended from an old family of poligārs. The estate is well irrigated by the streams flowing down from the WESTERN GHATS.

Siruttondanallūr.—A trading Town in the Srīvaikuntam tāluk, Tinnevely District, Madras, containing a population of 6,099 inhabitants (1901), and situated in $8^{\circ} 39' N.$ and $78^{\circ} 2' E.$

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Sivagiri Town.—Chief town of the zamindāri of the same name lying in $9^{\circ} 20' N.$ and $77^{\circ} 26' E.$, in the Sankaranayinārkovil taluk of the Tinnevelly District, Madras. It is a large Union with a population of 18,150 (1901).

Sivakāsi.—One of the most important centres of the caste of the Shānāns in the Tinnevelly District, Madras. It is situated in $9^{\circ} 27' N.$ and $77^{\circ} 48' E.$, in the Sattūr taluk of that District, twelve miles from SATTUR and midway between that town and SRIVILLIPUTTUR. Is a Union with a population of 13,021 (1901). Many of the Shānān merchants are well-to-do, their trade being chiefly in tobacco, cotton and jaggery (coarse sugar). Sivakāsi was the scene of the outbreak of the disturbances of 1899 which arose out of a dispute as to the right of the Shānāns to enter the local temple. Several lives were lost in these riots and a punitive police force of 100 men under a Special Assistant Superintendent of Police is now stationed in the town.

Srīvaikuntam Town (Vishnu's holy heaven).—A town lying in $8^{\circ} 38' N.$ and $77^{\circ} 55' E.$, on the left bank of the TAMBRA-PARNI river, 18 miles below TINNEVELLY in the Tinnevelly District of Madras. It is the head-quarters of the taluk of the same name and is a Union with a population of 10,550. It contains a fine and richly endowed Vaishnavite temple the annual festival at which attracts large crowds. An enclosure in the town surrounded by mud walls and known as the fort is occupied by a peculiar sub-division of the Vellāla caste, called the Kottai (fort) Vellālas, who keep their womenkind strictly secluded within the four walls of the enclosure and marry only within their own sub-division. Their number, as might be expected, is dwindling in consequence of this restriction on their choice of brides. There is a fine iron bridge over the dam across the Tāmbra-parṇi at Srīvaikuntam.

Srīvilliputtūr Town (or Nāchiyārkovil).—The chief town of the taluk of the same name in the Tinnevelly District, Madras, situated in $9^{\circ} 30' N.$ and $77^{\circ} 37' E.$, 24 miles from the Sattūr railway-station on the South Indian Railway. It is a famous place of pilgrimage and contains a very large Vaishnavite temple with a big tower and handsome sculptures. Tirumala Naik of Madura (1623-59), the most famous of his line, built for himself a small palace here in which the taluk offices are now located. The town was constituted a municipality in 1894. The average municipal receipts and expenditure in the eight

years after the council was constituted were Rs. 16,900 and Rs. 16,800 respectively. In 1903-04 the income, most of which was derived from house and land taxes and tolls, was Rs. 19,000 and the expenditure Rs. 17,000. The population of the town is 26,382 (1901) and comprises 24,943 Hindus, 933 Christians and 506 Musalmāns. A large number of the Brāhmans are Vaishnavites, and several of them are dependent on the temple for their livelihood. Srīvilliputtūr is the centre of the local traffic of the tāluk.

Sūrandai.—A large Union with a population of 11,810 lying in 8° 59' N. and 77° 25' E., in the Tenkāsi tāluk of the Tinnevelly District, Madras. It carries on a considerable trade in pulse and other grain with TINNEVELLY and other places in the District.

Tenkāsi Town (*Ten*, south and *Kāsi*, Benares).—Head-quarters town of the tāluk of the same name in Tinnevelly District, Madras, situated in 8° 58' N. and 77° 19' E., 33 miles from TINNEVELLY town, with which it is now connected by the branch line of the South Indian Railway which runs from that place to QUILON. It is a large Union situated on the main road from Tinnevelly to Travancore through Ariankāvu, contains a population of 18,128 (1901), and is a busy trade centre. The place is of great sanctity, as appears from its name, and possesses a fine temple containing some excellent sculptures. Three miles from Tenkāsi is situated the famous waterfall and sanitarium of KUTTALAM.

Tinnevelly Town (*Tirunelveli*).—The chief town of the tāluk and District of the same name in the Madras Presidency, situated in 8° 44' N. and 77° 41' E., on the left bank of the TAMBRAPARNI river, 446 miles from Madras by rail. It is the largest town in the District, but the administrative head-quarters are at PALAMCOTTAH, on the opposite bank of the river.

The early history of the place is not of much note. About 1560 it was rebuilt by Viswanātha, the founder of the Naik dynasty, who also erected many temples in it. The chief shrine at present is a large building dedicated to Siva, which is beautifully sculptured and contains many inscriptions. Mr. Fergusson considers (*Indian and Eastern Architecture*, p. 366) that, though this is neither among the largest nor the most splendid temples in southern India, it has the rare advantage of having been

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built on one plan at one time, without subsequent alteration or change.

The population of the town, in 1891 was 24,768 and in 1901, 40,469 (of whom 34,664 are Hindus, 4,998 are Musalmāns and 807 Christians), and it ranks eighteenth in size among the towns of the Presidency. It was constituted a municipality in 1866. The average income and expenditure of the municipality during the last ten years were Rs. 36,500 and Rs. 34,900 respectively. In 1903-04 they were respectively Rs. 58,700 and 59,700. The chief sources of income were the house and land taxes and tolls. Its limits extend to the bank of the river, but the main town is more than a mile and a half distant and the water-supply is inadequate. A scheme for furnishing Tinnevely and Pālamcottah with drinking water from the Tāmbraparni has long been under consideration, but financial and other difficulties have prevented it from being matured. The drainage of the town is also faulty. A proposal has recently been made to combine the two municipalities in order to facilitate the undertaking of large public works for their mutual benefit. There are two second-grade colleges for boys in the town, one of which, the Hindu College, is managed by a local committee, while the other is maintained by the Church Missionary Society. An industrial school is kept up by the District board. Near the Tinnevely railway-station are the jaggery (coarse sugar) warehouses of Messrs. Parry & Co., from which jaggery is sent by rail to their distillery and sugar-factory at NELLIKUPPAM, and two sugar-factories under native management. The two latter, however, owing to financial embarrassments, are not at present working. There is also some timber trade in the town, the wood being brought down from SHENCOTTAH in Travancore.

Tiruchendūr.—A famous place of pilgrimage on the coast of the Srīvaikuntam tāluk, Tinnevely District, Madras, situated in 8° 30' N. and 78° 7' E., 32 miles from PALAMCOTTAH, with which it is connected by a trunk road. It contains a wealthy and much frequented temple built out into the sea and possessing a lofty tower which is a landmark for miles to mariners. The floating population in Tiruchendūr is always very large owing to the weekly and monthly festivals in the temple. Out of 26,056 people enumerated here at the census of 1901, more than a third were pilgrims to a feast which was then proceeding, and the town is not normally as populous as these statistics would

indicate. Tiruchendūr is a favourite resort in the hot weather, the cool breeze from the sea moderating the heat of the plains a good deal. A railway line on the metre gauge is proposed to be constructed to the place from TINNEVELLY by the District board, and the work is likely to be taken in hand very shortly.

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Tuticorin (*Tuttukkudi*).—The second seaport in the Madras Presidency and the southern terminus of the South Indian Railway. It is a municipal town in the Ottappidāram taluk of the Tinnevely District, Madras, lying in 8° 48' N. and 78° 9' E., 443 miles by rail from Madras. It was first (about 1540) a Portuguese settlement, was taken by the Dutch about 1658 and was again taken from the Dutch by the English in 1782. It was restored to the Dutch by treaty in 1785 but was re-taken in 1795. The Dutch obtained it again in 1818 but ceded it in 1825 to the English, in whose possession it has remained ever since. Tuticorin seems to have been a most important place formerly, and in 1700 the Jesuits spoke of it as having 50,000 inhabitants.

The appearance of the town and its neighbourhood is not attractive. In parts the soil is so thin that no trees or plants will flourish, and elsewhere there is little but heavy sand on which only palmyra palms and a few bushes grow. The rainfall is scanty, the annual average being only 24 inches. The water-supply of the town is derived from the TAMBRAPARNI, being brought from a reservoir four miles distant. The local wells are all brackish. An estimate amounting to Rs. 1,15,000 has now been sanctioned for an improved scheme for supplying the town with drinking water and the work has been taken in hand.

Tuticorin is the head-quarters of the Revenue Divisional Officer in charge of Srīvaikuntam and Ottappidāram taluks, as well as of an Assistant Superintendent of Police and an Assistant Commissioner of Salt and Abkārī Revenue. The Additional Sub-Judge's court, hitherto located in Palamcottah, has also been removed to the town. There is in addition a Government salt factory at Arasadi, a village near by.

A municipality was constituted in 1866. The average income and expenditure of the council during the ten years ending with 1902-03 were Rs. 45,700 and Rs. 37,800 respectively. The receipts and expenditure in 1903-04 amounted to Rs. 54,700 and Rs. 61,000 respectively. The expenditure includes capital

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outlay on water-supply works and the excess over receipts was met by a loan from Provincial Funds. Most of the income was derived from the house and land taxes and tolls. The population of the town, according to the census of 1901, was 28,048 persons, of whom the Hindus numbered 18,418, Musalmāns 1,694 and Christians 7,936. Nearly 8,000, or 30 per cent., of the population are Paravans (fishermen) whose forefathers were converted to Roman Catholicism in a body in the 16th century. Tuticorin is their chief town and the residence of the *Jāti Talaivar*, or headman of their caste. Several European firms have agencies in the place. It contains three Catholic churches, a convent of native nuns, and three high schools for boys. There is also within it an old Dutch cemetery in which are elaborately carved tombstones bearing Dutch coats of arms.

Tuticorin ranks next to Madras in the Presidency and sixth in all India in the importance of its trade. It possesses a cotton-spinning mill and five factories for cleaning and pressing cotton. In 1903-04 the former, The Coral Mills Co., employed nearly 1,600 hands daily and turned out 2,600 tons of yarn. The other factories employed in the aggregate nearly 400 hands daily and pressed nearly 12,000 tons of cotton besides considerable quantities of cinchona, palmyra fibre and hemp.

The harbour of Tuticorin is well sheltered, but only has twelve feet of water at the entrance. Vessels other than country craft have accordingly to anchor from four to five miles from the land, and their cargo is brought ashore in boats ranging from 20 to 50 tons burden. About 60 large boats with a total capacity of nearly 1,500 tons ply in the port and 500 boatmen are always available. The port has an iron screw-pile pier besides a wooden jetty for light work and six private jetties owned by European firms. There is also a lighthouse on Hare Island, 2½ miles from the shore, in which is a fixed light of 14 miles range and visible from all directions seaward.

In 1903-04, 1,350 vessels of a total tonnage of 750,000 called at Tuticorin. Of these, 450 were steamers with a total tonnage of 713,000. The trade of the port has steadily advanced, the value of its exports and imports in 1903-04 amounting to 286 lakhs and 161 lakhs, respectively, against 157 lakhs and 68 lakhs in 1891-92.

The principal articles of export are raw cotton, live animals (principally cattle and goats to Ceylon), coffee, cotton piece-

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goods, drugs and medicines, oil-cake, paddy and rice, hides and skins, spices and tea. Raw cotton makes up nearly half the total value of the export trade of the port, which conducts about three-fourths of the trade of the Presidency in this article. The value of the exports of cotton in 1903-04 amounted to 119 lakhs of rupees against 98 lakhs in 1895-96. It is sent to many parts of Europe and Asia. Tuticorin has the largest export trade in chillies in the Presidency, while it comes next to Cochin in the value of its export trade in tea. A large quantity of paddy and rice is annually sent to Ceylon. The chief imports are European cotton twist and yarn and piece-goods, petroleum, machinery, hardware and cutlery, areca-nuts and timber. There is also a very large passenger traffic with Ceylon, the average number of passengers who arrived at the port in the three years ending 1901-02 being 97,190 and of those who left it, 83,402. The coasting steamers of the British India Steam Navigation and Asiatic Navigation Companies call frequently and there is also a daily mail service to and from Colombo in connection with the South Indian Railway. Passengers are conveyed to the boats in steam launches.

The port is under the control of a Port Officer, who is also the Superintendent of the Pearl and Chank Fisheries. A small steamer is kept up in connection with the latter. A committee for landing and shipping dues has also recently been constituted.

* **Vadakku Valliyūr** (*Vadakku* means northern).—The largest town in the Nānguneri tāluk, Tinnevely District, Madras. Population 6,903 (1901). It is situated in 8° 27' N. and 77° 37' E., on the trunk road from TINNEVELLY to TRIVANDRUM, 28 miles from the former place. It has a large tank well supplied from streams from the WESTERN GHATS. The temple dedicated to Subrahmanya is of importance and is visited by large numbers of people from all parts of the District.

Varttirāyiruppu.—A large and well-watered town situated in a deep bay in the WESTERN GHATS in the north-west corner of the Srivilliputtūr tāluk of the Tinnevely District, Madras, in 9° 38' N. and 77° 39' E. From it a mountain path leads over into the Kambam valley of the Madura District and another path goes to the dam of the well-known PERIYAR PROJECT on the Travancore hills. The place is a Union with a population, mainly agricultural, of 13,131 persons (1901), and is the head-quarters of a deputy tahsildār and sub-magistrate.

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Viravanallūr.—An important town in $8^{\circ} 42'$ N. and $77^{\circ} 31'$ E., in the Ambāsamudram tāluk of the Tinnevelly District, Madras. It is now a station on the Tinnevelly-Quilon branch of the South Indian Railway and is a large Union with a population of 17,327. A large weaving industry exists and several streets are wholly occupied by the weaver castes. The articles chiefly made are coarse towels and *mundus*, the national dress of the people of Travancore.

Virudupatti.—Town and railway-station in the Sāttūr tāluk of the Tinnevelly District, Madras, situated on the Madura border in $9^{\circ} 35'$ N. and $77^{\circ} 57'$ E. It is a Union with a population of 16,837 (1901), of whom a large number are Shānāns. Virudupatti is an active centre of the cotton trade and possesses five cotton pressing and ginning mills which afford employment to more than 400 hands daily.

Cross-references (for Imperial Gazetteer only).

- Adrampatām.**—Town in Tanjore District, Madras Presidency.
See ADIRAMPATNAM.
- Adrampet.**—Town in Tanjore District, Madras Presidency.
See ADIRAMPATNAM.
- Arconum.**—Railway junction in North Arcot District, Madras Presidency. See ARKONAM.
- Arnee.**—Sub-division, zamīndāri tahsil and town in North Arcot District, Madras Presidency. See ARNI.
- Aryalūr.**—Sub-division and town in Trichinopoly District, Madras Presidency. See ARIYALUR.
- Bhowāni.**—River in Coimbatore District, Madras Presidency.
See BHAVANI.
- Chengalpat.**—District, sub-division, taluk and town in the Madras Presidency. See CHINGLEPUT.
- Chilambaram.**—Sub-division, taluk and town in South Arcot District, Madras Presidency. See CHIDAMBARAM.
- Chittūr.**—Sub-division, taluk and town in North Arcot District, Madras Presidency. See CHITTOOR.
- Collegāl.**—Sub-division, taluk and town in Coimbatore District, Madras Presidency. See KOLLEGAL.
- Combaconum.**—Sub-division, taluk and town in Tanjore District, Madras Presidency. See KUMBAKONAM.
- Conjevaram.**—Taluk and town in Chingleput District, Madras Presidency. See CONJEEVERAM.
- Courtallum.**—Village in Tinnevely District, Madras Presidency.
See KUTTALAM.
- Dārāpur.**—Taluk and town in Coimbatore District, Madras Presidency. See DHARAPURAM.
- Devakota.**—Town in Madura District, Madras Presidency. See DEVAKOTTAL.
- Devikota.**—Ancient fort in Tanjore District, Madras Presidency.
See DEVIKOTTAL.
- Etaiyapuram.**—Zamīndāri estate and town in Tinnevely District, Madras Presidency. See ETTAIYAPURAM.
- Firingīpet.**—Town in South Arcot District, Madras Presidency.
See PORTO NOVO.
- Fort St. David.**—Historic fort in South Arcot District, Madras Presidency. See DAVID, FORT ST.

- Fort St. George.**—The citadel of Madras. See MADRAS CITY.
- Gingi.**—Village in South Arcot District, Madras Presidency. See GINGEE.
- Gudiatham.**—Taluk and town in North Arcot District, Madras Presidency. See GUDIYATTAM.
- Guindy.**—Village in Chingleput District, Madras Presidency. See MADRAS CITY.
- Gulf of Manaar.**—Gulf between India and Ceylon. See MANAAR, GULF OF.
- Jawādi.**—Hill range in the North Arcot District of Madras. See JAVADI.
- Jollārpēt.**—Village and railway-station in Salem District, Madras Presidency. See JALARPET.
- Kadaynallūr.**—Town in Tinnevely District, Madras Presidency. See KADAIYANALLUR.
- Kail.**—Ancient port in Tinnevely District, Madras Presidency. See KAYAL.
- Kālastri.**—Zamindari tahsil, estate and town in North Arcot District, Madras Presidency. See KALAHASTI.
- Kānchivaram.**—Taluk and town in Chingleput District, Madras Presidency. See CONJEEVERAM.
- Kollamalai.**—Mountain range in Salem District, Madras Presidency. See KOLLAIMALAI.
- Kovilam.**—Village in Chingleput District, Madras Presidency. See COVELONG.
- Kovilpatti.**—Village in Tinnevely District, Madras Presidency. See KOILPATTL.
- Kulitalai.**—Taluk of Trichinopoly District, Madras Presidency. See KULITTALAI.
- Madhyārjunam.**—Town in Tanjore District, Madras Presidency. See TIRUVADAMARUDUR.
- Mahābalipur.**—Village in Chingleput District, Madras Presidency. See SEVEN PAGODAS.
- Manar, Gulf of.**—Gulf between India and Ceylon. See MANAAR, GULF OF.
- Manārgudi.**—Sub-division, taluk and town in Tanjore District, Madras Presidency. See MANNARGUDI.
- Mettapoliem.**—Village and railway-station in Coimbatore District, Madras Presidency. See METTUPALAIYAM.

Milūr.—Sub-division, tāluk and town in Madura District, Madras Presidency. See MELUR.

Nāgapatnam.—Sub-division, tāluk and town in Tanjore District, Madras Presidency. See NEGAPATAM.

Nagar.—Village in Tanjore District, Madras Presidency. See NEGAPATAM.

Nagore.—Village in Tanjore District, Madras Presidency. See NEGAPATAM.

Nāmakal.—Sub-division, tāluk and town in Salem District, Madras Presidency. See NAMAKKAL.

Nānganeri.—Tāluk and town in Tinnevely District, Madras Presidency. See NANGUNERI.

North Arcot.—District in the Madras Presidency. See ARCOT, NORTH.

Oosoor.—Sub-division, tāluk and town in Salem District, Madras Presidency. See HOSUR.

Otapidāram.—Tāluk of Tinnevely District, Madras Presidency. See OTTAPPIDARAM.

Pālamkotta.—Town in Tinnevely District, Madras Presidency. See PALAMCOTTAH.

Palāveram.—Town in Chingleput District, Madras Presidency. See PALLAVARAM.

Palmenair.—Tāluk and village in North Arcot District, Madras Presidency. See PALMANER.

Panroti.—Town in South Arcot District, Madras Presidency. See PANRUTI.

Parmagudi.—Zamīndāri tahsil and town in Madura District, Madras Presidency. See PARAMAGUDI.

Paumben.—Island and village in Madura District, Madras Presidency. See PAMBAN.

Perambūr.—A suburb of Madras City. See MADRAS CITY.

Periakulam.—Tāluk and town in Madura District, Madras Presidency. See PERIYAKULAM.

Point Calimere.—Promontory in Tanjore District, Madras Presidency. See CALIMERE, POINT.

Ponnē.—River in North Arcot District, Madras Presidency. See POINI.

Pothanūr.—Village and railway junction in Coimbatore District, Madras Presidency. See PODANUR.

Pulney.—Tāluk and town in Madura District, Madras Presidency. See PALNI.

- Pūnamallee.**—Town in Chingleput District, Madras Presidency.
See POONAMALLEE.
- Rāmanādapuram.**—Sub-division, zamīndāri tahsīl, estate and town in Madura District, Madras Presidency. See RAM-NAD.
- Rāmeshwaram.**—Town in Madura District, Madras Presidency.
See RAMESWARAM.
- St. George, Fort.**—The citadel of Madras. See MADRAS CITY.
- St. Thomé.**—A suburb of Madras. See MADRAS CITY.
- Sātūr.**—Sub-division, tāluk and town in Tinnevely District, Madras Presidency. See SATTUR.
- Seringham.**—Town and island in Trichinopoly District, Madras Presidency. See SRIRANGAM.
- Shendamangalam.**—Town in Salem District, Madras Presidency.
See SENDAMANGALAM.
- Shermādevi.**—Sub-division and town in Tinnevely District, Madras Presidency. See SERMADEVI.
- Shivaganga.**—Zamīndāri tahsīl, estate and town in Madura District, Madras Presidency. See SIVAGANGA.
- Sholinghar.**—Town in North Arcot District, Madras Presidency.
See SHOLINGHUR.
- Sirutandanallūr.**—Town in Tinnevely District, Madras Presidency. See SIRUTTONDANALLUR.
- South Arcot.**—District in the Madras Presidency. See ARCOT, SOUTH.
- Srīperambūdūr.**—Town in Chingleput District, Madras Presidency. See SRIPERUMBUDUR.
- Srīvaikuntham.**—Tāluk and town in Tinnevely District, Madras Presidency. See SRIVAIKUNTAM.
- Sydapet.**—Sub-division, tāluk and town in Chingleput District, Madras Presidency. See SAIDAPET.
- Tenkarai.**—Former name of a tāluk in Tinnevely District (Madras) which is now called SRIVAIKUNTAM.
- Tenkarai.**—Town in Madura District, Madras Presidency. See PERIYAKULAM.
- Tiāgar.**—Village in South Arcot District, Madras Presidency.
See TYAGA DURGAM.
- Tinnevelli.**—District, sub-division, tāluk and town in the Madras Presidency. See TINNEVELLY.
- Tirukoilūr.**—Sub-division, tāluk and town in South Arcot District, Madras Presidency. See TIRUKKOYLUR.

Tirupatūr.—Sub-division, tāluk and town in Salem District.
Madras Presidency. See TIRUPPATTUR.

Tirupūr.—Town in Coimbatore District, Madras Presidency.
See TIRUPPUR.

Tiruturaipūndi.—Tāluk and town in Tanjore District, Madras
Presidency. See TIRUTTURAIPPUNDI.

Tiruvatiyūr.—Town in Chingleput District, Madras Presidency.
See TIRUVOTTIYUR.

Trichendoor.—Town in Tinnevely District, Madras Presidency.
See TIRUCHENDUR.

Trichengode.—Tāluk and town in Salem District, Madras
Presidency. See TIRUCHENGODU.

Trichinopoli.—District, sub-division, tāluk and town in the
Madras Presidency. See TRICHINOPOLY.

Trikalūr.—Sub-division, tāluk and town in South Arcot
District, Madras Presidency. See TIRUKKOYILUR.

Trinomalai.—Tāluk and town in South Arcot District, Madras
Presidency. See TIRUVANNAMALAI.

Tripatty.—Town in North Arcot District, Madras Presidency.
See TIRUPATI.

Tripatūr.—Sub-division, tāluk and town in Salem District,
Madras Presidency. See TIRUPPATTUR.

Tripatūr.—Zamīndāri tahsīl and town in Madura District,
Madras Presidency. See TIRUPPATTUR.

Trivellore.—Sub-division, tāluk and town in Chingleput District,
Madras Presidency. See TIRUVALLUR.

Udairpolliem.—Tāluk and town in Trichinopoly District, Madras
Presidency. See UDAIYARPALAIYAM.

Uppēr Tirupati.—Village in North Arcot District, Madras
Presidency. See TIRUMALA.

Uttankarai.—Tāluk of Salem District, Madras Presidency. See
UTTANGARAI.

Uttiranmerūr.—Town in Chingleput District, Madras Presi-
dency. See UTTARAMERUR.

Vadaku Valiyūr.—Town in Tinnevely District, Madras
Presidency. See VADAKKU VALLIYUR.

Vadaku Viravanallūr.—Town in Tinnevely District, Madras
Presidency. See VIRAVANALLUR.

Vallam Vadākusetti.—Town in Tanjore District, Madras
Presidency. See VALLAM.

Valliyūr.—Town in Tinnevely District, Madras Presidency.
See VADAKKU VALLIYUR.

Vedārniam.—Town and canal in Tanjore District, Madras Presidency. See VEDARANNIYAM.

Viruddhāchalam.—Taluk and town in South Arcot District, Madras Presidency. See VRIDDHACHALAM.

Wāllājāhpet.—Taluk and town in North Arcot District, Madras Presidency. See WALAJAPET.

Watrap.—Town in Tinnevely District, Madras Presidency.
See VARTTIRAYIRUPPU.

Yerkād.—Hill station in Salem District, Madras Presidency.
See YERCAUD.



